Food Packer

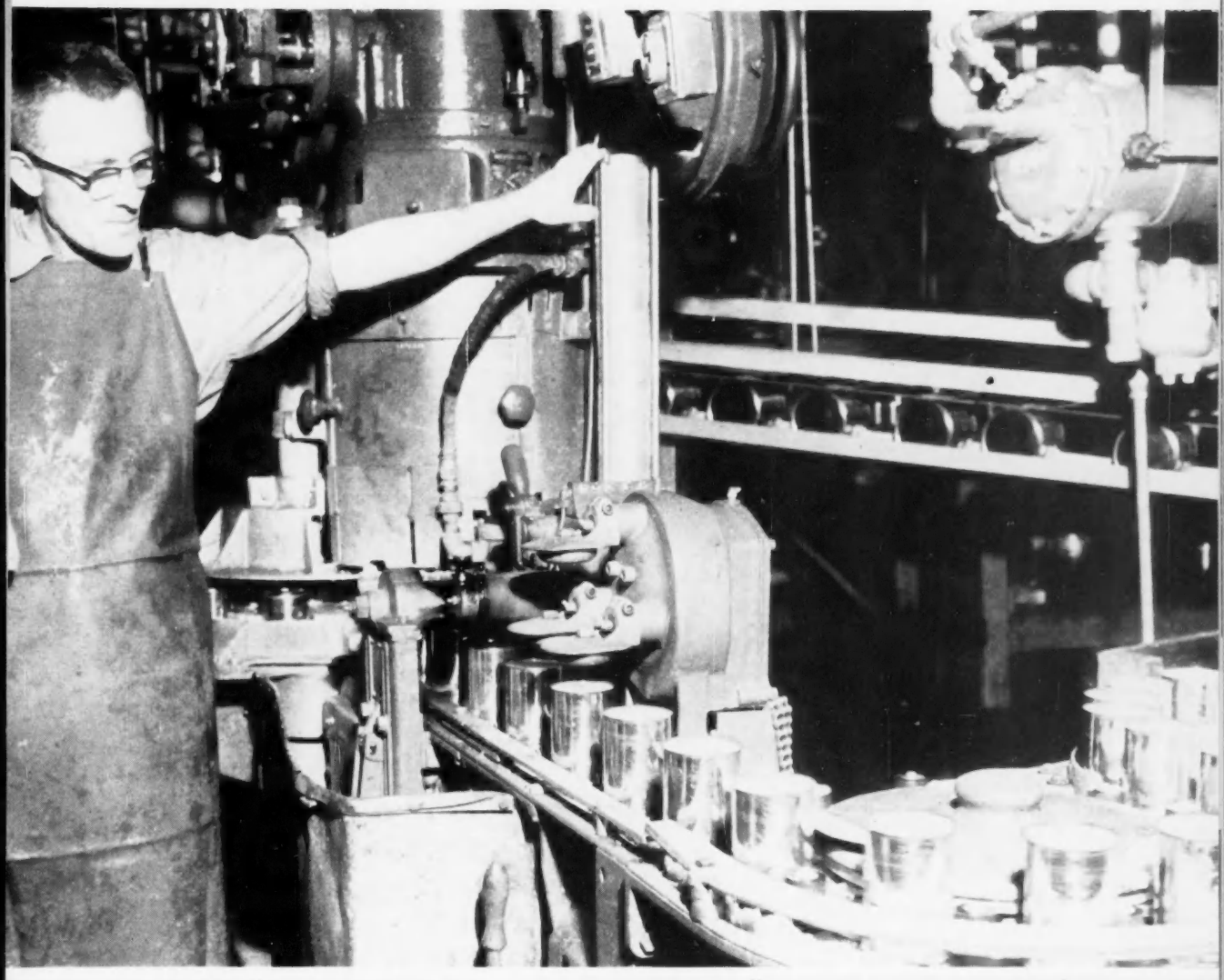
The National Magazine of Production and Management

CANNING GLASSPACKING FREEZING

A Vance Publication

June, 1956

Man-of-the-Month
Marvin P. Verhulst



"Lucky Leaf" Line—Page 20

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Decontaminating Tomatoes—Page 32

Du Pont's new non-caloric sweetener

Cylan

TRADE-MARK

CALCIUM CYCLAMATE

makes dietetic foods more delightful!

Yes, dietetic foods sweetened with "Cylan" are more delightful! That's because "Cylan" has the pleasant, sweet taste your customers like . . . but without the calories. "Cylan" remains stable and retains its sweetening through canning, baking, and freezing. It's unaffected by fruit acids, too.

And, because of modern eating habits, "Cylan" opens new markets for you. New markets because over 20% of our population is overweight. These "weight watchers" are all potential customers for your low-calorie products sweetened with "Cylan."

Capitalize on this growing, profitable market!

• *Write Du Pont for free sample and informative booklet today.*
E. I. du Pont de Nemours & Co. (Inc.), Grasselli Chemicals Dept., Wilmington 98, Delaware.

CYLAN
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CALCIUM CYCLAMATE

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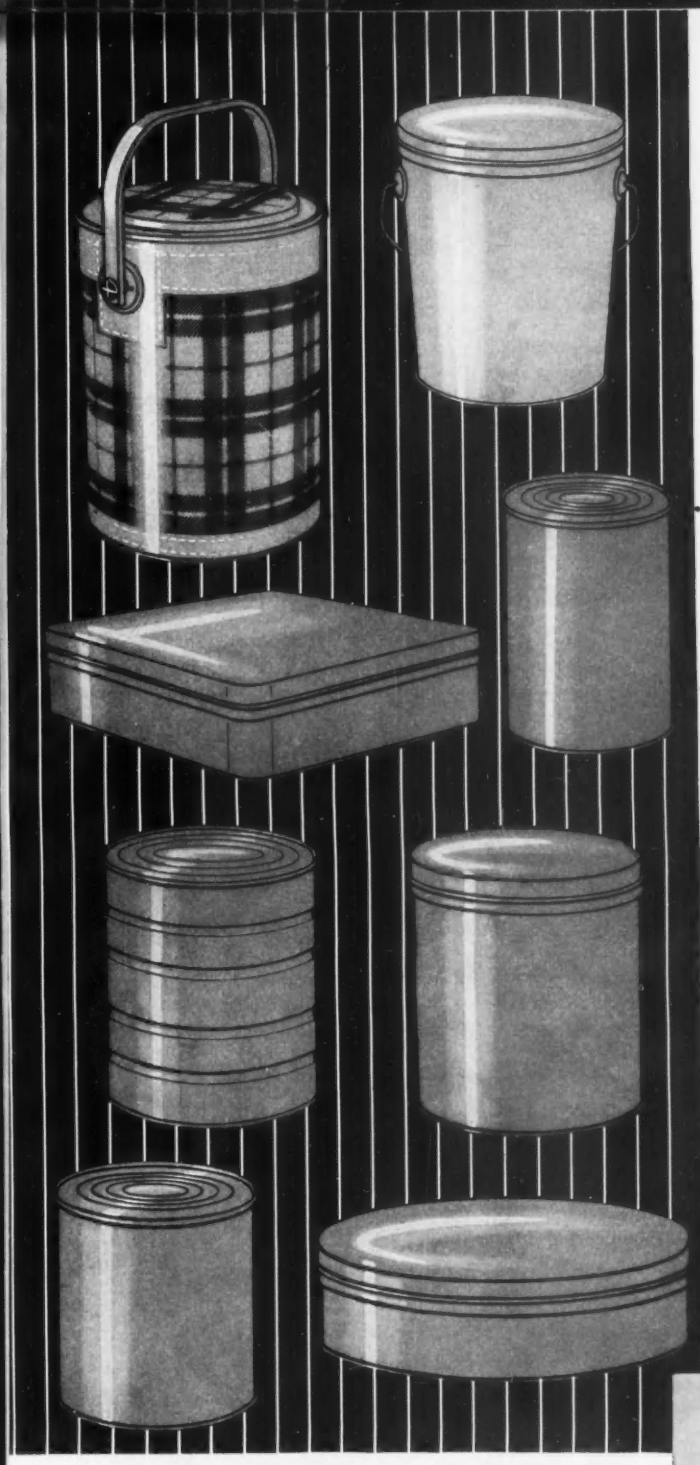
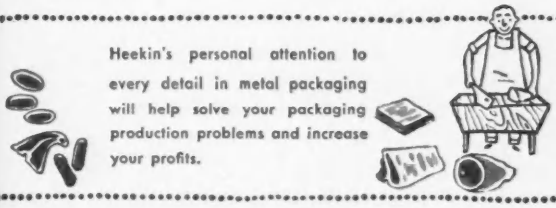
BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*



modern
Product Planned Metal Containers by HEEKIN

Economical Metal Packaging by Heekin for the baking industry has increased sales for many bakers. Heekin Cans "eye appeal" makes the sale for your profit.

No matter your product, Heekin's engineers and packaging experts have the answers to metal packaging production problems.



Heekin's personal attention to every detail in metal packaging will help solve your packaging production problems and increase your profits.

Women buy more than 80% of all items in metal packages... they are smart buyers... sell them in Heekin Product Planned Cans.

HEEKIN CANS

PRODUCT PLANNED

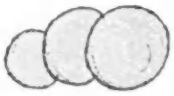
since 1901

THE HEEKIN CAN CO. *PLANTS IN OHIO, TENNESSEE & ARKANSAS*
SALES OFFICES; CINCINNATI, OHIO; SPRINGDALE, ARKANSAS

IF competition demands that your product go to market in the metal package that is most profitable for you, you should know the story of Heekin *Product Planned* Cans. Regardless of your product, no matter your market problems, you'll find that Heekin . . . *with fifty-five years of metal packaging experience*... will have the answer. The metal package that Heekin delivers to you will be the one most ideally suited for your product. Call Heekin for the metal package . . . either *plain* or *lithographed* . . . that is product planned for your product and your profit.

HOW'S YOUR CANNING I.Q.?

Do you know that...

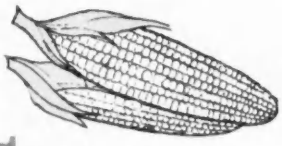


Peas

have tender skins, and contain pectins? When a salt having more than 150 parts of calcium and magnesium per million parts of salt is added to peas, it toughens their tender skins, and down-grades their quality.

Beets

contain oxalate? When calcium and magnesium impurities exist in a salt, they react with the oxalate to form calcium and magnesium oxalate. This is left as an unattractive, white deposit on the beets.



Corn

is high in sulphur? Copper and iron impurities in a salt react to give corn an unsightly dark brown or black color. These impurities also react with vegetable fats to cause rancidity and off-flavor.

Olives

contain olive oil and tannins? When excessive calcium is present in a salt, calcium oleate, a soapy, white deposit is formed. The tannins combine with the calcium to create a dark-colored brine.

Beans

like peas, contain pectins? They taste best when tender. But when calcium and magnesium impurities exist in a salt, the bean skins harden. Result? Choice-quality beans are down-graded one or more grades.

Spinach

contains oxalate? When calcium and magnesium impurities are present in a salt, an unappetizing white substance forms on the spinach. The result is decreased customer satisfaction, and down-grading.

So why let impure salt down-grade the legumes you pack?

Use Diamond Crystal Flake Salt...it will help you get highest quality and profits from your product!

- **Diamond Crystal Flake Salt is low in calcium and magnesium impurities**—its higher uniform purity produces a true salt flavor that enhances the natural flavor of raw vegetables!
- **Diamond Crystal Flake Salt is low in heavy metal contamination**—has less than 1.5 parts per million of pro-oxidants copper and iron!
- **Diamond Crystal Flake Salt is highest in cleanliness**—has the lowest insoluble content of any canning salt. It's the cleanest ingredient you can buy!

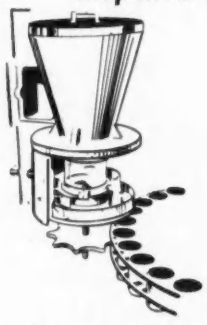
Start using Diamond Crystal Flake Salt in your operation right away! Available in a variety of screenings.

DIAMOND CRYSTAL FLAKE SALT

America's Largest-Selling High-Grade Salt!

For further information, write to:
Canning Dept., Diamond Crystal Salt Co., St. Clair, Michigan

NEW! *Diamond Precision Dispenser!*



This accurate, new automatic salt dispenser is an engineering triumph. It deposits just the right amount of salt in each can *every time*. Never misses! Eliminates tablet burns, too! Send for full information today!

Food Packer

June 1956

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DISTRICT REPRESENTATIVES

East—Jerry Regan, 2034 Grand Central Terminal Bldg., New York 17, N. Y., MUrray Hill 3-8333
Central—Robert F. De Freitas, 139 N. Clark St., Chicago 2, Ill., FInancial 6-5380
Midwest—Robert O. Bormann, 139 N. Clark St., Chicago 2, Ill., FInancial 6-5380
West Coast—Charles W. Hoefer, 1664 Emerson St., Palo Alto, Calif., Davenport 4-2661

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Events to Come

June 10. National Nargus Convention, Los Angeles.

June 10-14. Institute of Food Technologists, annual meeting, Sheraton-Jefferson Hotel, St. Louis.

June 19-20. Maine Canners Association, Lakewood, Me.

June 20-22. Processed Apple Institute, 5th annual meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 24-30. National Food & Drug Law, anniversary week, nation-wide.

July 10-12. Western Packaging & Materials Handling exhibit, Pan Pacific Auditorium, Los Angeles.

July 13. Tri-State Packers Association, annual summer outing, Miles River Yacht Club, St. Michaels, Md.

July 19-20. National Kraut Packers Association, annual meeting, Catawba Cliffs Beach Club, Port Clinton, Ohio.

August 6-9. National Food Distributors, annual meeting, Hotel Sherman, Chicago.

Oct. 17-19. National Pickle Packers Association, 63rd annual meeting, Edgewater Beach Hotel, Chicago.

Oct. 24-27. Florida Canners Association, 25th annual convention, Hollywood Beach Hotel, Hollywood, Fla.

Nov. 1. Illinois Canners Association, annual meeting, Bismarck Hotel, Chicago.

Nov. 7-8. Wisconsin Canners Association, annual convention, Schroeder Hotel, Milwaukee.

Nov. 8-9. Iowa-Nebraska Canners Association, annual meeting, Fort Des Moines Hotel, Des Moines, Iowa.

Nov. 14-16. Indiana Canners Association, fall convention, French Lick Sheraton Hotel, French Lick, Ind.

Nov. 18-19. Pennsylvania Canners Association, 42nd annual convention, Yorktowne Hotel, York, Pa.

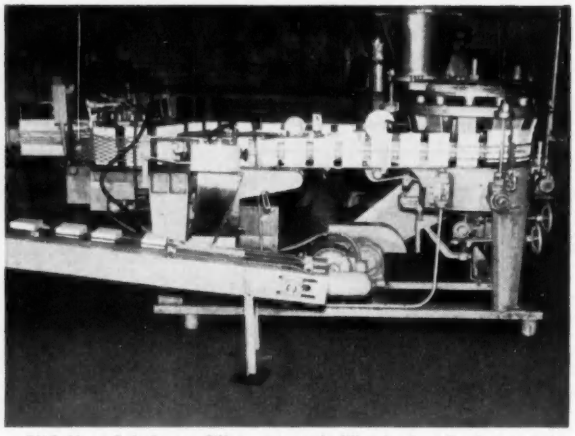
Nov. 26-27. Ohio Canners Association, annual convention, Hotel Carter, Cleveland, Ohio.

Nov. 29-30. Michigan Canners & Freezers Association, fall meeting, Pantlind Hotel, Grand Rapids, Mich.

Dec. 13-14. New York State Canners & Freezers Association, 71st annual meeting, Statler Hotel, Buffalo, N. Y.

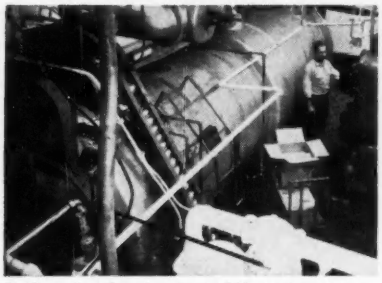
Jan. 6, 1957. National Frozen Food Convention, Fontainebleau Hotel, Miami Beach, Fla.

Sensational "Sure-Way"* Caser has brought an entirely new concept of automation to the field of casing frozen packaged products.

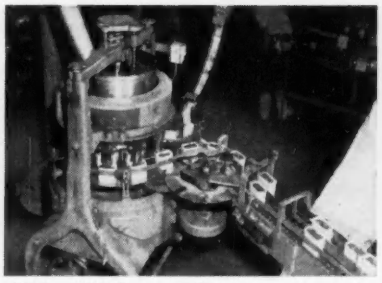


FMC Mara-Pak Carton Filler—automatic filler for free-flowing granular products in end-opening cartons. Fills up to 250 cartons per minute.

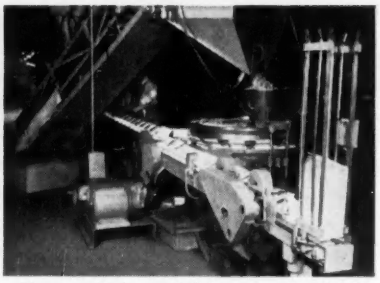
Famous *fmc* filling, freezing and casing equipment cuts costs, speeds output of premium quality frozen foods



Uniform fast-freezing (up to 300 cpm) captures natural fresh flavors in the FMC Continuous Round Shell Can Freezer.



FMC — M&S Plunger Fillers set new standards for high speed, high accuracy filling and product versatility.



There are high speed, fully automatic FMC fillers for filling consumer and institutional size top-opening cartons.

These and other highly specialized FMC machines have literally shaped the profit-building production methods of leading frozen food plants everywhere. Today you can choose from several models of high-capacity, high-accuracy FMC Fillers—for all types and shapes of containers; FMC Can Freezers to meet the ever-increasing popular demand for a variety of frozen canned juices, soups and other foods; and package casers that provide low cost, automatic casing at amazing speeds. Every item of FMC equipment is closely keyed to present day demands for greatest productivity at lowest manpower requirements. Designed and perfected for specialized precision operation, they exemplify the modern concept and practice of cost-saving *automation*. So if you're planning to expand, or to build a new plant, you'll plan *better* with FMC . . . your "Key to Frozen Food Equipment."

Write for full information, or call your nearest FMC representative.

*"Sure-Way" Package Casers are distributed exclusively by FMC.

Key to food equipment

fmc FOOD MACHINERY AND CHEMICAL CORPORATION

FOOD MACHINERY AND CHEMICAL CORPORATION

Canning Machinery Division

General Sales Offices:

WESTERN: SAN JOSE, CALIFORNIA **EASTERN:** HOOPESTON, ILLINOIS

Industry Names and News

C. A. Wood

Edalene Stohr

C. A. Wood has been appointed to the newly created position of director of sales of the *Wm. J. Stange Company*; **F. K. Koepke** has been appointed sales manager.

Edalene Stohr, former associate food editor of *Woman's Home Companion*, has been appointed director of Home Economics for *American Can Company*. Miss Stohr succeeds **Harriet Jean Anderson,** who resigned.

Northwest Packing Company, Portland, Ore., will pack and ship on schedule this season, in spite of the recent $1,500,000 fire, according to the company's president, **Max Lehman.**

Anchor Hocking Glass Corporation and its subsidiaries, *Carr-Lowrey Glass Company* and *The Standard Glass Manufacturing Company*, announce the new location of their New York sales offices and display rooms at 415 Madison Avenue, New York 17.

Robert F. Duemler, director of sales, *Crown Cork & Seal Company, Inc.*, has been elected vice president of the company.

Paisley Products, Incorporated announces its acquisition of the assets, business and production facilities of *Dilco Products, Incorporated*, Redwood City, Calif.

Dr. Roger H. Lueck, vice president in charge of the research and technical department of *American Can Company*, has been elected to the board of directors of the *Industrial Research Institute*.

Ross S. Alverson has been made office manager in Chicago for the *A. E. Staley Manufacturing Company*.

A change in name and ownership has been announced by *Clinton Foods Incorporated*. With the company's recent purchase by *Standard Brands, Incorporated*, the Clinton, Iowa company becomes the *Clinton Corn Processing Company*, a division of Standard Brands, Incorporated.

H. J. Heinz Company has announced the formation of a new southeastern sales region with headquarters at 57 Cantee St. in Jacksonville, Fla. **C. J. Watts,** formerly manager of the Jacksonville branch office of Heinz from 1948-51, has returned to assume supervision of the new regional area.

J. W. Duerr

J. A. Mooney

Joseph W. Duerr has been elected secretary of *Robert Gair Company, Inc.* **Hugh C. Jenkins** and **James A. MacKenzie** were elected assistant secretaries.

John A. Mooney has been appointed vice president of sales and advertising of *Oriental Foods, Incorporated*.

Fred K. Crosby has been promoted to executive vice president of *Ocoma Foods Company* of Omaha. Mr. Crosby was formerly vice president and treasurer of the company.

Philip L. Drew has been appointed assistant to **Norman E. Liles,** food technologist in charge of Quality Control at *Tri-Valley Packing Association*.

Douglas H. Abbott of Omaha has joined the sales division of *Otoe Food Products Company* as advertising manager.

Harold E. Lents has been appointed sales manager of the refined oil sales department at the *A. E. Staley Manufacturing Company*, Decatur, Ill.

Burk Kraleman has been appointed general manager of sales central division for *National Can Corporation*, with headquarters in Chicago. **S. M. Hopkins** has been elected vice president.

Bertel E. Johnson has been appointed assistant to the treasurer of *Hunt Foods, Incorporated*, with responsibility for the customer credit program.

Automatic Temperature Control Company, Inc. announces its controls for industry are being sold in the Pittsburgh area by **J. H. Kauffman,** district manager, 454 Perrysville Road, Pittsburgh 29.

Murray Berger

D. Anderson

Murray Berger has been appointed national sales manager of *Aquafoods Corporation*. Mr. Berger has been northeastern regional sales manager of the *SeaPak Corporation* for the past five years.

Denton Anderson has been appointed New York district sales manager for the can division of *Crown Cork & Seal Company, Incorporated*.

Campbell Soup Company has appointed **Leo Burnett Company,** Chicago, advertising agent for Franco-American products.

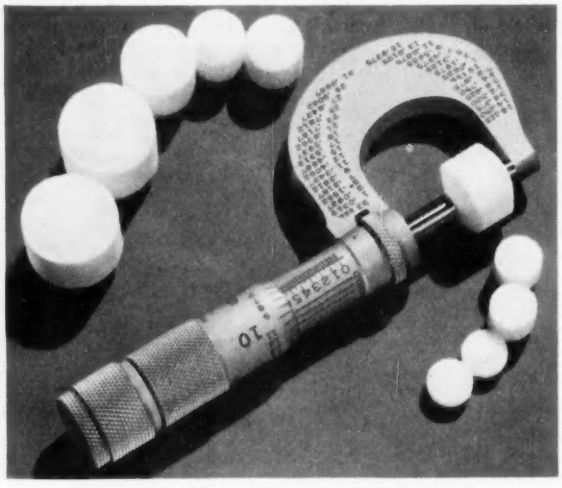
Hunt Foods has announced the following changes in its sales organization: **Lee Ostdick** has been promoted to assistant general sales manager with headquarters in Chicago; **Nat Magid,** assistant general sales manager in charge of the western sales region, has had Utah, Colorado, Wyoming and Idaho added to his territory.

The Becco Chemical Division of *Food Machinery & Chemical Corporation* announces the retirement of **Dr. Max E. Bretschger** as president on his thirtieth anniversary with the company. He will continue to act in the interest of the company as senior technical advisor. **Frederick A. Gilbert** will succeed Dr. Bretschger as president of the division.

Chas. Pfizer & Co., Inc.'s Northwestern Distribution Center officially opened April 18, at Portland Ore.

Protect product flavor with . . .

Scienco Salt Tablets



Constant Quality Control Insures Unvarying Weight, Measurement, and Purity

Salt—the right kind and the right amount—is your best guarantee for flavor control. That's why top quality houses use Scienco Salt Tablets.

Accurately made for your needs under continually controlled precision production methods, Scienco Salt Tablets contain the exact weight of high-purity Morton '999' Salt you want for accurate flavoring. Available in 10-grain to 400-grain sizes, Scienco Salt Tablets end hit-or-miss salt depositing . . . make it possible for you to order Morton Salt blended to your own specifications with other ingredients—calcium chloride, MSG, etc.

For faster, more accurate salting

Cut labor costs with a Salt Tablet Depositor. Automatically deposits a Scienco Salt Tablet in as many as 700 cans a minute! Guarantees accuracy—works on a "no can, no tablet" and a "no tablet, line stops" basis.

For more information write:

SCIENTIFIC SALTING COMPANY
Division of
MORTON SALT COMPANY
Dept. FPa-6, 1530 Hadley Street, St. Louis 1, Mo.

Washington and You

Robert Y. Kerr, Washington Editor

USDA Proposes Revision of Canned Peach Standards

Announcements made by the U. S. Department of Agriculture and other federal agencies:

Current standards for canned peaches (clingstone, freestone) have been in effect since July 1, 1942. The USDA proposes some revisions. The major changes in each of the proposals are similar. A style of "Mixed Pieces of Irregular Sizes and Shapes" has been included in addition to other styles in which peaches are commercially canned. This style has been limited to U. S. Grade B (or U. S. Choice) and lower grades.

More detailed requirements than in the 1942 standards are proposed for peaches processed as "solid pack" without added water or sugar. This type of pack in peaches is confined to larger can sizes and to U. S. Grade C (or U. S. Standard) and lower qualities.

The USDA announced the immediate beginning of a national inventory of soil and water conservation needs. This it seems is not an emergency project aimed at an immediate crisis; rather, it is intended as background information upon which to base national U.S.D.A. conservation plans. The initial inventory will be three years in the taking, will be gathered in every U. S. county, and will be followed by frequent revisions to keep basic facts about soil, water and plant resources up to date.

The study will be made by the Soil Conservation Service with the aid of half a dozen other federal agencies and the co-operation of state and local bureaus.

Weather has been proving generally difficult. At this writing some much-needed rain has been falling in the Middle West and Southwest; but much more is needed to overcome the moisture deficit in those areas. April dust storms in northern Texas did more damage than has been suffered there in 20 years. In the eastern third of the country excess rains and cold weather caused the chief crop injury during the spring season. Cotton planting was two weeks late. Frost damaged apple blossoms in Virginia and peaches in Georgia.

The use of vacuum cooling to preserve agricultural products is not a new invention, since it was first used in 1946, but it has developed to the point where vacuum chambers have been constructed large enough to accommodate a loaded refrigerator car or a truck trailer. Air is pumped out of the vacuum chamber, and the evaporation of water from the produce effects the cooling.

Spinach, coleslaw and mixed salad can be vacuum-cooled after being bagged and packed in master containers. It's a rapid operation, taking usually from a quarter to half an hour.

Copies of the study—"Vacuum Cooling Fresh Vegetables and Fruits," (AMS-107)—may be obtained from the Marketing Information Division, Agricultural Marketing Service, USDA, Washington 25, D. C.

A survey of methods of selling fruits and vegetables in retail food stores disclosed some rather uniform buying habits. Two different sized cans of red sour cherries, similarly labeled and selling for approximately the same

Flattery can be a very potent weapon, particularly when it is applied to the effective presentation of a product at the point of sale . . . and this is the field in which Brockway excels.

The unique clarity of a Brockway glass container presents your product at its attractive best . . . it provides sales appeal unmatched by any other type of container . . . it enables the prospective buyer to see and appraise the product . . . and it is a constant salesman for the product wherever it is displayed for sale.

And behind the Brockway glass container is an organization that is friendly, capable and reliable . . . an organization that is ready at all times, to provide assistance with any problem that involves the packaging of a product in the world's finest glass container.

BROCKWAY GLASS
COMPANY, INC.
Brockway, Pennsylvania
Muskogee, Okla. Lapel, Ind.

you'll find . . .

packed in every CLINTON product

Yes, we're packers, too. Into every Clinton product . . . corn syrup, corn starch, lactic acid and Clintose . . . we pack quality, technical know-how and years and years of experience.

Canners have learned Clinton *Canners' Special Sweet* corn syrup adds extra sales value to their products in the form of better gloss, brighter color, and sweetness that enhances, without dominating, the natural fruit flavors.

No matter what foods *you* process, Clinton products from corn will help pack extra quality into your cans and jars, too.

...and remember technical service in connection with your specific problems is available without obligation.

Quality products

FROM THE WORLD'S CORN CENTER

CLINTON

CLINTON CORN PROCESSING COMPANY
A Division of Standard Brands Incorporated
CLINTON, IOWA

price per ounce, were displayed side by side in a number of self-serve supermarkets for 12 weeks. The 19 oz. cans outsold the 17 oz. in all the stores.

Carrots sold best without tops and packed in 1 and 2 lb. polyethylene bags—37% more than when displayed in 1 lb. bunches. Methods of displaying bananas made little difference in total sales; but banded bunches priced at from 30c to 39c were the most popular.

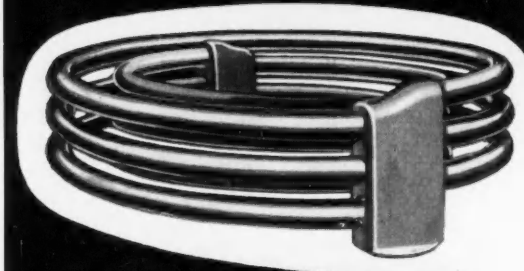
Some federal economists have been expressing the fear that despite heroic rescue efforts, 1956 farm income is likely to be some $200 million lower than that of last year; and 1955 farm income was the smallest, up to that time, since 1942.

The support price of butter was raised by 2c a pound in mid-April; and this resulted in a sharp increase of butter sales to the Government. However, a rather recent check revealed that federal stocks of butter amounted to about 6 million pounds, down from 218 million pounds a year earlier. In July, 1954, the CCC's uncommitted stock of butter reached a peak of 466 million pounds. The Government sells or gives away the surplus about as fast as it is accumulated.

In fact, because of the heavy movement of butter out of CCC inventory in the year ending last March 31, uncommitted stocks of CCC-owned butter dropped to zero in mid-March, and dairying heads into the flush milk season with no overhang of government-owned butter bought in previous years.

However, price support purchases of butter are being made in sufficient volume to meet current export and domestic sales, donations and other special program needs. As CCC supplies become limited the USDA withdraws butter from foreign donation. Domestic donations which have priority under the law, together with commercial export sales, are expected to furnish a proper use for all the butter acquired during the current marketing year.

World's Fastest-Cooking Coil!



Langsenkamp's
KOOK-MORE KOIL

Real cooking efficiency! Fresh steam enters three tubes simultaneously through unique divided header to deliver 18% more volume with 20% less steam pressure, at the same time providing instant drainage of condensate. This greater evaporating capacity assures a product of richer color and full-bodied flavor.

Kook-More Koils are made in 27″, 42″ and 60″ banks. Tube size—3″. Choice of copper, nickel or stainless steel. Write for full details.

F. H. LANGSENKAMP CO. 227 EAST SOUTH ST. INDIANAPOLIS 25, INDIANA

1875

Before the end of the last century, manufacturers of medicinal and beautifying aids had begun to realize the sales value of an easily recognized package . . . although many designs proved more ornamental than practical. The growing demand for these "trademarked" bottles and jars created a problem for the glass factories of that era, as they lacked facilities to mass-produce special containers in any great variety.

The importance of clear-cut product identification is emphasized more than ever in all of today's highly competitive markets . . . along with the added considerations of package weight, strength and ease of handling for shipment. Through continuing design research, Metro is supplying the answers . . . and through METROmatic service, supplying a growing number of manufacturers with quality glass containers, delivered on an unfailing schedule, geared to specific production requirements.

METRO GLASS COMPANY, INC.

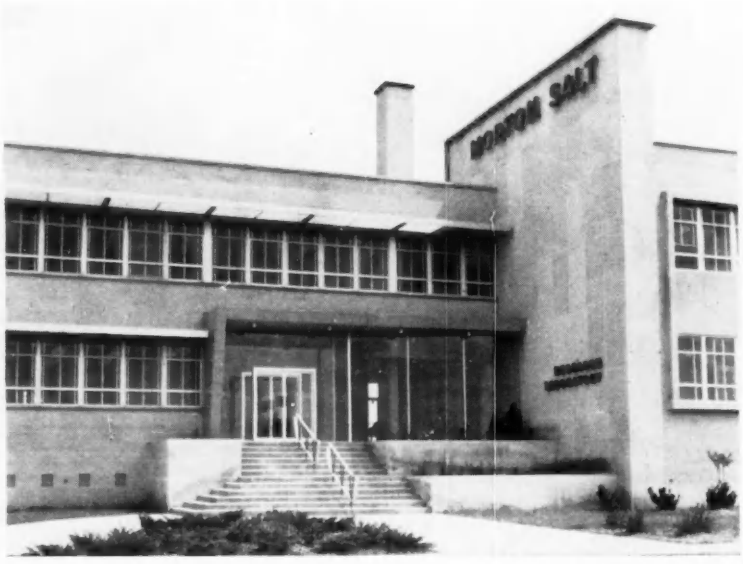
MANUFACTURERS OF QUALITY GLASS CONTAINERS

JERSEY CITY, NEW JERSEY

WASHINGTON, PA. CHICAGO, ILL.

Spotlighting the NEWS

Million Dollar Salt Shaker



Construction of the building is such that it will permit future expansion if future projects make it necessary. New Morton Salt laboratory has 67 rooms, including 37 individual laboratories, and is completely air-conditioned. Other facilities include pilot plants, glass blowing room, work shop, water treatment and cold storage spaces.

A new multi-million dollar laboratory building, designed especially for the conduct of research projects related to salt and its usages, is now in operation at Woodstock, Ill., a short distance northwest of Chicago.

The laboratory will provide the best available facilities for experimental studies and will be staffed by a hand-picked group of top chemists and chemical engineers headed by Dr. C. S. Carlson.

Tri-Valley Forms Credit Union

Employees of the Tri-Valley Packing Association, San Francisco, have formed their own credit union, the California Credit Union League reports.

The new credit union will enable members to get personal loans for good purposes at low cost, and will encourage thrift and regular saving, according to the League. About 265 employees and their families will be eligible for membership in the new group.

Donald J. Holzem is key man in the organization, which has been named the Tri-Valley Credit Union. Employees in the canning and preserving industry now operate 70 credit unions, according to the Credit Union National Association (CUNA).

There are over 21,500 credit unions with 10 million members in North America, and about half of them are operated by employees in industry, CUNA further reports.

Test Market With New Potato Product

An actual market test of a new product made from Maine potatoes will be conducted in the near future, according to a joint announcement by the Maine Agricultural Experiment Station, Eastern Utilization Research Branch and Market Development Branch of the U. S. Department of Agriculture.

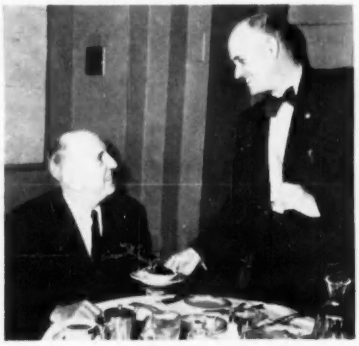
The new product will be known as potato flakes and will need only the addition of water and milk to make mashed potatoes. The method of producing potato flakes was developed by the Eastern Utilization Research Branch laboratories.

Financial and advisory aid will be given by the Maine Potato Commission to all phases of the marketing test, including the development of a retail package. Tentative plans call for the production of about 20,000 consumer units for the market test.

Food & Drug Law Week

Public attention will be centered on the 50th birthday of the federal food, drug and cosmetic legislation by a national "Food & Drug Law Anniversary Week" June 24-30.

Jack Horner— Oregon Style



Oregon plums were served in the Senators' private dining room in Washington D.C., as more than 300 senators and guests partook of Northwest Canned Purple Plums. Senator Richard L. Neuberger of Oregon was host for the feast. Senator Russell of Georgia is shown here coming back for one of several helpings.

Protect Color
and flavor!
FROZEN PEACHES
Frozen CHERRIES
FROZEN APPLES
Use Pfizer Ascorbic Acid or Ascorbic-Citric Mixture to protect your bulk frozen fruits—peaches, cherries, apricots, apples.

It costs surprisingly little* to keep your frozen food packs looking fresh and tasting fresh . . . to give them greater sales appeal with . . .

PFIZER ASCORBIC ACID. In fruits, ascorbic acid controls the oxidation that causes browning and flavor loss. A small amount of ascorbic on fish will check "rusting" of the fatty portion that results in off-taste. Write for Technical Bulletins No. 28 (frozen fish) and No. 70 (frozen fruit) for helpful information on how to use Pfizer Ascorbic Acid in your processing . . . to **protect your sales!**

*A fraction of a cent per pound.

CHAS. PFIZER & CO., INC., • *Chemical Sales Division* • 630 Flushing Ave., Brooklyn 6, N. Y.

Branch Offices: Chicago, Ill.; San Francisco, Calif.; Vernon, Calif.; Atlanta, Ga.; Dallas, Texas

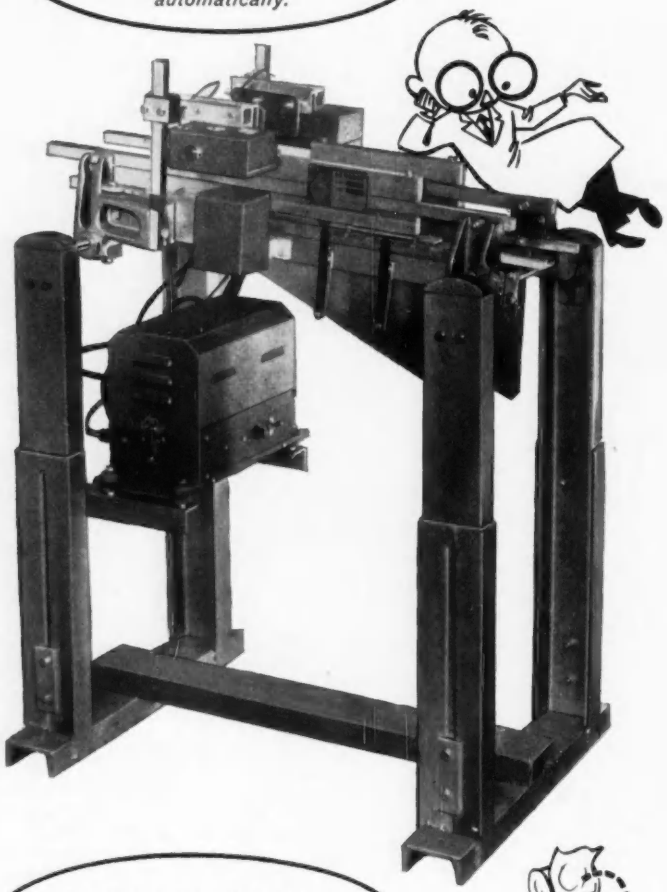
Manufacturing Chemists for Over 100 Years **Pfizer**

CRCO* ROBOT CAN EJECTOR

*SAY "SEE-AR-CO"

KEEPS YOUR LABELING PERFECT

1,000 CANS PER MINUTE
get positive label inspection, *automatically.*



Cans are handled bead to bead. Only the mislabeled can is ejected.

No human eye can consistently detect all labeling flaws, even at slow speed. Yet CRCO's *Robot Can Ejector* inspects upwards of 1,000 cans per minute, rejecting any kind of faulty labeling. Write for complete information.

THE BEST OF Everything

CHISHOLM-RYDER CO. INC.
Niagara Falls, New York
FOR THE FOOD PROCESSOR

Louis Shere, president of Diversey (left) receives American Management Institute award from Jackson Martindell, Institute president.

Diversey Gets Excellent Management Citation

An award for "Excellent Management" was recently bestowed upon Diversey Corporation by the American Institute of Management.

The report notes Diversey's rise to a major position in the manufacturing of sanitation chemicals for use in food processing and food serving. It further states, "Inspection of Diversey's research and development facilities disclose both modern facilities and an atmosphere conducive to this type of endeavor. The company meets a high standard in the quality of its research personnel which the Institute considers the most important single factor in any research endeavor."

NC & FA Sponsors Contest

The Northwest Canners and Freezers Association through its Washington Farm Youth Program Committee has established a state-wide contest for young growers of fruit and vegetable crops for processing.

Cash prizes amounting to $40, $25, $20 and $15 provided by the Association will be awarded to the top four Washington contestants of the processing section of the Production and Marketing Contest, National Junior Vegetable Growers Association. To be eligible for the Washington contest, a contestant's crop must be grown in Washington and processed by an Association member. Boys and girls between the ages of 14 and 21 are eligible. The Washington program has been set up with the cooperation of representatives of FFA chapters, 4-H clubs and the NJVGA. Serving on the Washington Committee are L. M. Jones, chairman; Andrew Steiner, Walla Walla Canning Company, Walla Walla; and Francis Sunden, National Fruit Canning Company, Seattle.

CONTINENTAL
Landmarks

Periodic progress reports of interest and value to the food processing field

Significant Development in Beaded Cans

New cluster-beaded cans offer greater paneling resistance—increased axial strength

A new kind of beaded can, made with two clusters of narrow beads packed equidistant from the ends of the container, now offers packers substantial advantages over the conventional wide-beaded can.

In addition to improved axial strength and paneling resistance, Continental's three sizes of cluster-beaded cans provide the following extra benefits:

1. **Less metal exposure in enameled cans.** Absence of inside tabs eliminates possibility of enamel damage at side-seam, thus reducing metal exposure.

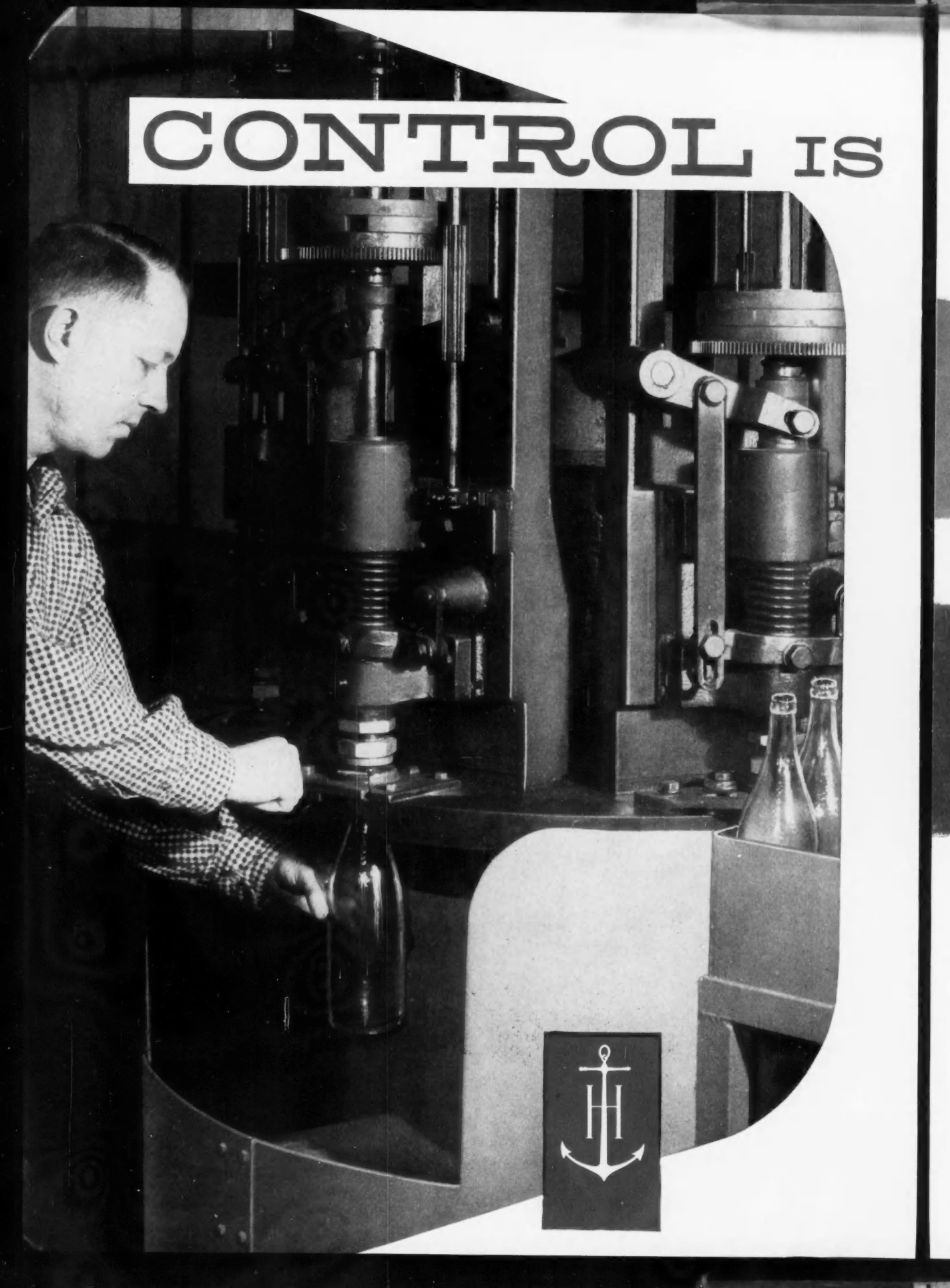
2. **Cleaner inside surface.** Cluster-beaded cans have no inside tabs—hence no uneven soldering.

3. **Better labeling surface.** The new cluster-beaded can offers much more flat surface to assure positive adhesion of labels and reduce the chance of tearing or breaking.

Continental's cluster-beaded cans were introduced to the food packing industry less than a year ago, and are now in extensive commercial use. This is typical of the many new packaging ideas now coming from our Metal Division research and development center in Chicago—as well as Continental laboratories coast to coast.

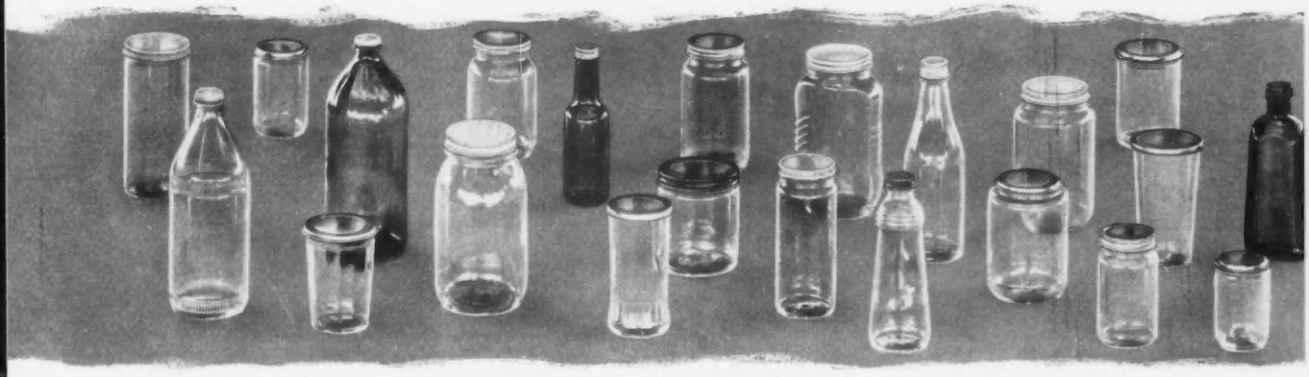
CONTINENTAL CAN COMPANY

EASTERN DIVISION: 100 E. 42nd St., New York 17
CENTRAL DIVISION: 135 So. La Salle St., Chicago 3
PACIFIC DIVISION: Russ Building, San Francisco 4

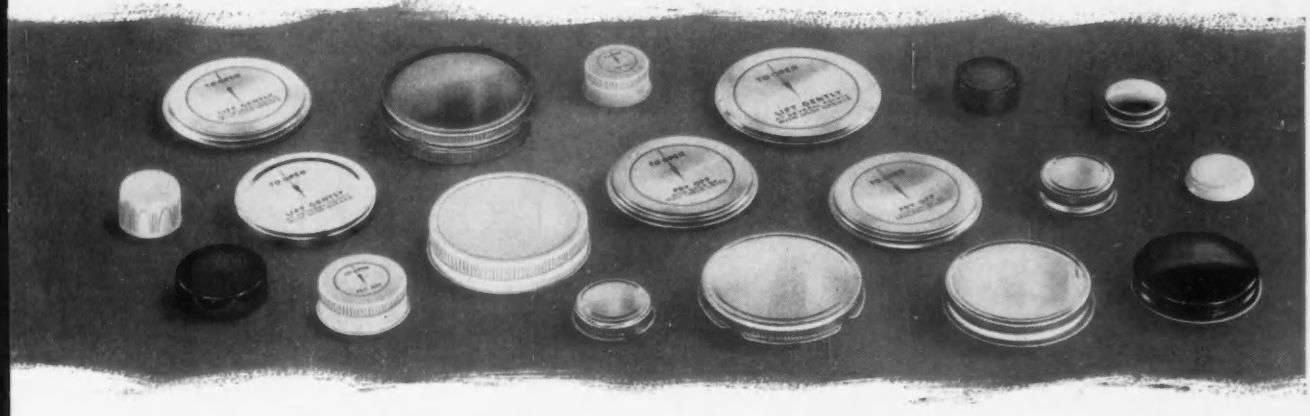

CONTROL IS

ALL-IMPORTANT

with Anchor Hocking!



Regardless of what you pack Anchor Hocking makes an Anchorglass container in a style, size and color to most attractively, efficiently and economically package it. And regardless of how you pack it—hot or cold—with or without vacuum, sterilized or processed, there's an Anchor cap and Anchor sealing machine to completely satisfy your diverse and specialized requirements.



THE controls applied throughout your production and packaging operations are all-important to you. By the same token, the manufacturing controls employed by Anchor Hocking are very important to you, also.

Anchor Hocking exercises literally hundreds of exacting controls, tests and checks daily in the manufacture of its glass containers and closures. From the selection of all raw materials used to the final inspection, every operation is under meticulous control.

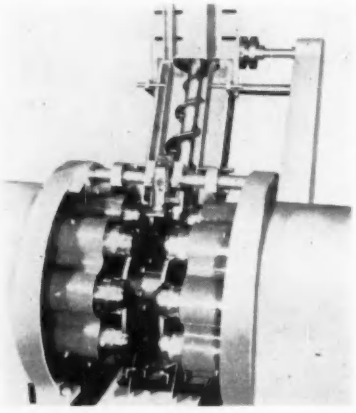
And all of this control, involving highly trained chemists, bacteriologists, engineers, other technicians and personnel, is done but for one reason. And that is, to provide you with uniform, high quality, dependable Anchorglass® containers and Anchor® screw, lug, vacuum, metal and molded closures that will give you high-speed, dependable production and protection.

ANCHOR HOCKING

GLASS CORPORATION *Lancaster, Ohio*

What's New?

Supplies • Equipment • Trade Literature

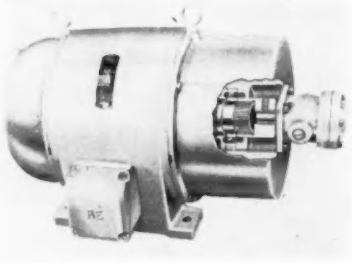


Feed Mechanism

E. W. Bliss Company has developed a spiral-type feeding mechanism which accurately locates can bodies in a flanger at high rates of speed.

The spiral on the feed is the accelerated type to separate the cans, and is chrome plated and polished to prevent damage to can bodies. It is capable of feeding several different can sizes, a design feature that enables one or two spirals to handle the variety of sizes found in many modern plants.

Further information may be obtained from E. W. Bliss Company, 50 Church St., New York 7.



Pump Motor

A new spline coupling method of hooking up a hydraulic pump to an electric motor's output shaft eliminates all adapter and alignment problems, according to the manufacturer. Time required for installation is reported to be approximately 1/10th as long as conventional hook-ups.

The pump motor has a streamlined appearance, is compact, and accommodates all standard make pumps. Available in ratings from 15 h.p. through 40 h.p. in frame sizes 324U and 326U, it is supplied for either single or double end pump installations.

For engineering data and prices, write Reuland Electric Company, Alhambra, Calif.

Vacuum Dehydrator

An exclusive vacuum dehydrator is being featured by Chain Belt Company at the 16th annual meeting of the Institute of Food Technologists to be held in St. Louis this month.

Because of its flexibility, the continuous Chain Belt vacuum dehydrator can be adapted to the drying of a wide variety of products such as fruit juice concentrates, dairy products, soluble coffee, tomato juice concentrate, chemicals and pharmaceuticals.

For a copy of bulletin numbers 55-126 and 55-127 on vacuum dehydrators, write Chain Belt Company, Dept. PR, Milwaukee 1.

HIGH SPEED SLICING of PICKLES CARROTS CELERY RHUBARB

THE URSCHEL MODEL "O" TRANSVERSE SLICER:

- results in greater cutting yields.
- is ruggedly constructed for years of dependable service with low maintenance.
- cuts thicknesses from 1/32" to 1-1/3".
- occupies only 2' x 9' 3-1/4" floor space.

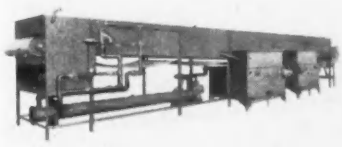
Produces CLEAN, UNIFORM CROSSCUTS With No Product Crushing!

Consult Urschel now for the experienced answers to your every cutting problem. Write:

PRECISION HIGH-SPEED FOOD CUTTING EQUIPMENT

URSCHEL LABORATORIES INC.
VALPARAISO, INDIANA

manufacturers of precision, high speed cutting equipment for delicate food products



Peach Peeler

Increased product yield—up to four cases per ton—and low operating costs realized through substantial savings in lye solution, highlight the advantages of the FMC Cup-Down Clingstone peach peeler.

The peeler is designed to peel halved peaches without subjecting the cut side or pit cavity of the fruit to the lye solution. The manufacturer reports that thorough testing of the machine in commercial application during the 1955 season revealed considerable increases in yield—attributed to the fact that the lye solution does not come into contact with the cut side of the fruit to cause discoloration or disintegration of the flesh.

The peeler is offered in four standard sizes, producing from 25 to 60 tons of product per hour, according to requirements.

Additional information is available from Food Machinery & Chemical Corporation, Canning Machinery Division, P. O. Box 1120, San Jose 8, Calif., or 103 E. Maple St., Hoopeston, Ill.

Friction Clutch

A simple and highly practical friction clutch which acts as a safety device and prevents damage to equipment from jamming or overloading is offered by the Frank Hamachek Machine Company, Kewaunee, Wis.

A threaded collar compresses a spring to exert pressure between the two clutch linings and the faces of a sprocket or gear, making them easily adjustable. The clutches are only 5⅜ in. long and will transmit up to 2 HP at 100 RPM on shaft sizes up to and including 1½ in.

(Continued on page 40)

CORRECTION

In the April issue of *Food Packer*, the author of the article "Quality Control of Tin and Glass Container" was incorrectly given as "Dr. I. J. Ping" instead of Dr. I. J. Pflug. Sorry!

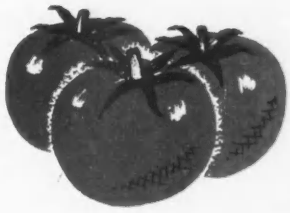
How much is the best tomato disease control program worth to you?

Whatever you're paying for a disease program, the chances are it's not too much.

A recent study in a major tomato-producing state showed that the best disease-control program represents less than 5% of the total cost of producing the crop. Yet, this same study showed that a few extra dollars for spray or dust was one of the main reasons why some growers make money while others only break even or lose money!

Your crop can show a greater return if you give it the very best of protection. That protection is with Du Pont "MANZATE" maneb fungicide, the nearest perfect tomato fungicide yet discovered!

If you're not already using "MANZATE," better switch to this program. It will help you grow more tons per acre of the best-quality tomatoes.



On all chemicals, follow label instructions and warnings carefully.

HOW TO USE "MANZATE"

1. Start early . . . within two weeks after the first fruit has set, to prevent early anthracnose infection.
2. Use three pounds per acre or in accordance with local recommendations, regardless of the gallonage sprayed per acre.
3. Spray at 7- to 10-day intervals to protect against anthracnose at all times. It will also keep the leaves alive and green by protecting against early blight, Septoria, gray leaf spot, and late blight. Healthy leaves mean larger fruit and less susceptibility to anthracnose.

DU PONT REG. U. S. PAT. OFF.

MANZATE® MANEB FUNGICIDE

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

As many as 400 women work in the preparation room at Peach Glen plant during apple season.

Plump red cherries are carefully inspected and handled by experienced help with modern equipment.

It Took More Than Luck to Build

"Lucky Leaf" Line

Success of Knouse Foods Stems From Good Quality, Proper Processing and Effective Selling

By Michaela Pyle

Practical planning, hard work, cooperation and merchandising knowledge have made Knouse Foods Cooperative, Inc., Peach Glen, Pa., one of the four major apple processing firms in the nation.

Its present enviable position was not attained by accident, despite the fact that grower members did not intend to have it become a large volume processing operation. Success was the result of operational support of a definite program.

Original members were interested primarily in the continuation of processing facilities that had existed since before World War I. Acquisition of their own firm was the result of years of planning for their own operation. Secondly, they aimed at strengthening the country's apple industry.

A rigid quality control plan, plus a good merchandising plan, topped by confidence in their own organization, contributed to an estimated $1 million earning figure last year.

Under the Lucky Leaf label growers in the four-state area of the southern Appalachian fruit belt market their crops in many forms – apple sauce, sliced apples, apple juice, apple butter and jelly, vinegar, red sour cherries, peaches, plums and fruit fillings.

The research and development division constantly is seeking new uses for fruit by-products, most recent of which are apple and cherry concentrates and essences used by confectionery manufacturers for flavoring.

Knouse foods had to meet quality competition from the first day of operation. The quality of raw fruit produced in the rich limestone soils of the Appalachian range had met the best quality competition in the country for many years – a factor of which growers were well aware – and producers were prompted to follow their fruit beyond the fresh market.

New Label

The introduction of the new label – Lucky Leaf – presented as great a problem to the new owners as did production. Grocery shelf space was not easy to acquire in a firmly established buyers' market. An attractive label was designed to attract impulse buyers, and growers were convinced that once the housewife used Lucky Leaf she would buy other products bearing the same label.

On this theory Knouse officers clung to the decision to avoid promotional prices that would probably have to be eliminated after consumer acceptance had been established. Also, growers dared not weaken their quality market by underselling competitive quality brands. Instead they launched a well-planned merchandising program to establish their brand at popular prices through high quality. During the past six years this theory has more than doubled sales volume.

M. E. Knouse, president and general manager, was the main factor and spearhead in overcoming early obstacles. A processor himself since 1924, and a prominent grower, he had built a reputation of integrity among growers and buyers. Sharing these responsibilities were 16 fellow growers who comprised the firm's first board of directors. All were well-established fruit growers in the area; all were merchandisers of fresh fruit, and each represented the determination of the entire membership to make a place for himself in the nation's apple processing industry.

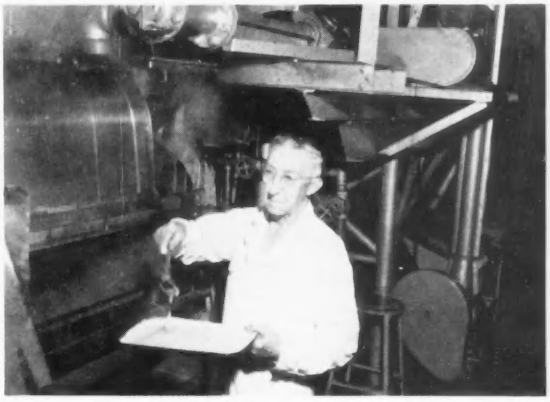
Growers had spent many years establishing profitable cultural practices, and in Dr. James R. Oyler, a young food chemist, they found ability to develop methods of preserving the high quality of their fruits. He worked closely with E. J. Nowicki, Jr., production manager, who carried out the actual operation of processing the firm's products.

Stress Quality

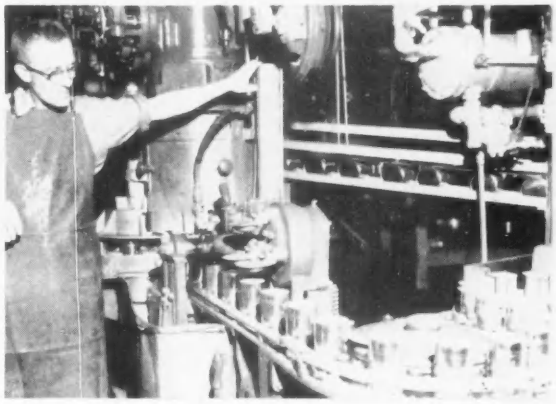
With a good quality control department functioning to provide high quality fruit, and a well-organized production department to produce efficiently, the association concentrated on the procurement of highest quality fruit from grower-members. This duty fell to John B. Peters, vice-president, a grower and farm leader, and one of the instigators of the cooperative. He worked closely with Dr. Oyler and Mr. Nowicki on delivery schedules to afford growers top-grade returns and convenience. His 25 years as a prominent grower provided him with a

Growers line up trucks to unload apples in first step of apple processing at Peach Glen. After being weighed and sorted they are cut and . . .

. . . inspected by women who carefully scrutinize slices as they pass by on inspection tables before being processed for applesauce . . .



. . . Oliver Lininger, cooker operator, inspects sample from applesauce cooler before passing product on to filling machines . . .



. . . where it is readied for market as it goes through capping machine and thence into packaging line to be placed into cartons for final delivery

thorough knowledge of fruit quality.

The resulting procurement, research and development programs brought the firm consistently high quality products. Laboratory and technical experts have spent much time on product improvement to assure buyer acceptance. Before a newly developed product is offered for distribution it must first meet the high standards of the brand name in shelf-life potential, consumer appeal, versatility and quality. These factors are determined by the condition and variety of fruit available for experiment, and the finished product is sanctioned by the firm's own hand-picked consumer test panel.

In the early stages of the operation, the job of selling the products meant that the association has to fit the needs of growers to a profitable merchandising program. The first requirement was that the increased volume should be sold at prices that would give growers at least current market prices. Secondly, the program had to be sufficiently flexible to adjust to the peculiarities of nature and various sized crops from year to year.

Sales consultants and marketing experts were called on to develop sound and accelerated patterns to give the cooperative needed results. A staff of active brokers was set up in the most important market areas in the country.

As a processor, the firm was encouraged to develop new products from the parent fruits and to add items to give Knouse Foods a complete line of 10 different fruit pie fillings.

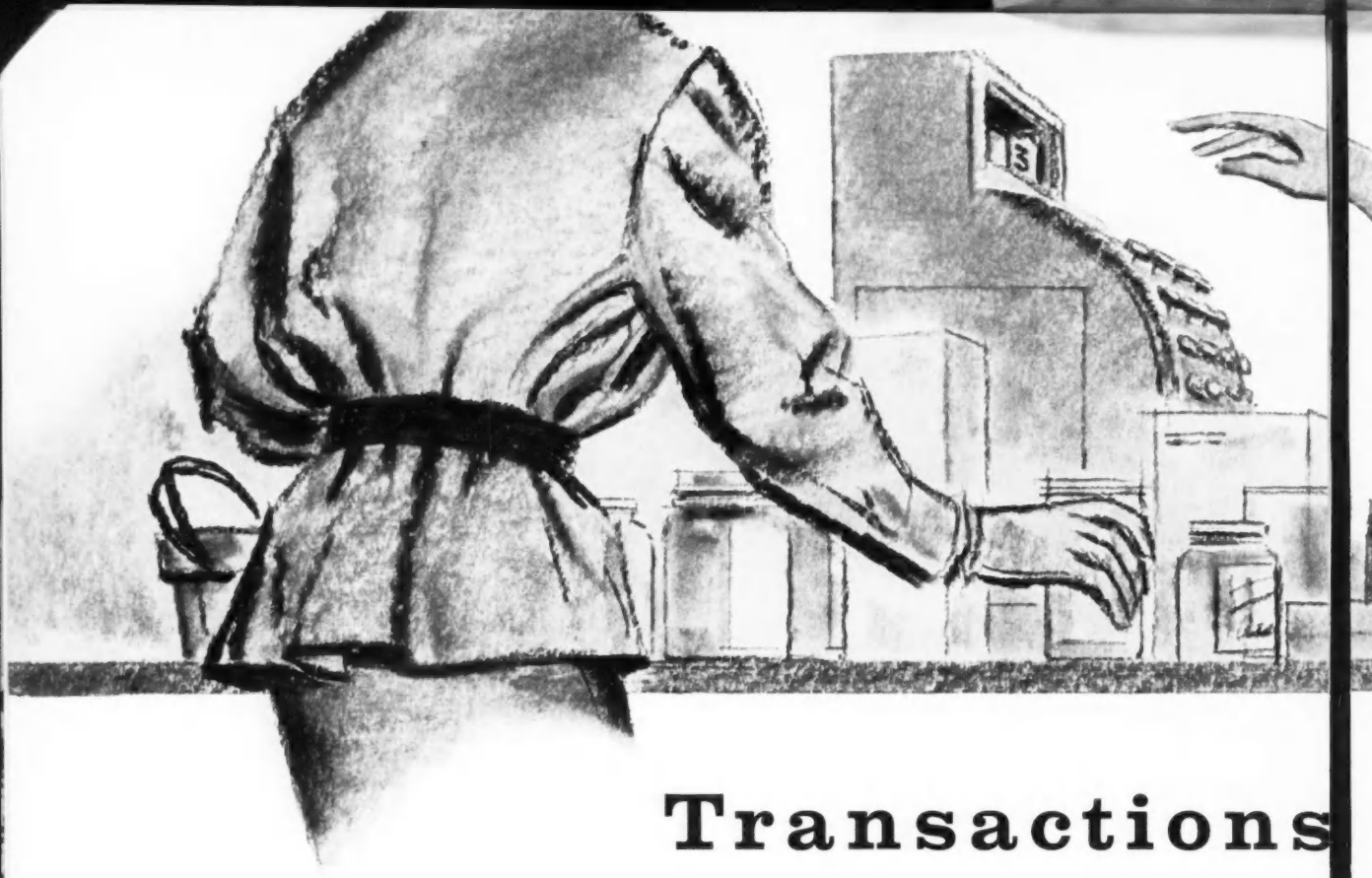
The pie filling division has brought about community benefits by enabling year-round operation. Privately owned freezing facilities have made it possible for the company to relieve warehousing strains and permit increased acceptance of fruit from growers.

Knouse Foods works constantly not only to develop new products, but also to improve existing products and to develop new by-products. For example, peaches were packed for two seasons on a pilot line before department heads agreed that the product was ready for commercial production. Growers were encouraged to plant new fruits – such as plums – practical additions to the company's line.

The idea of a fruit processing cooperative came to a boil in 1948. At that time a firm in the area decided to dispose of its apple processing plants at Chambersburg and Peach Glen, near Gettysburg. These plants had been an important fruit outlet for growers in the area.

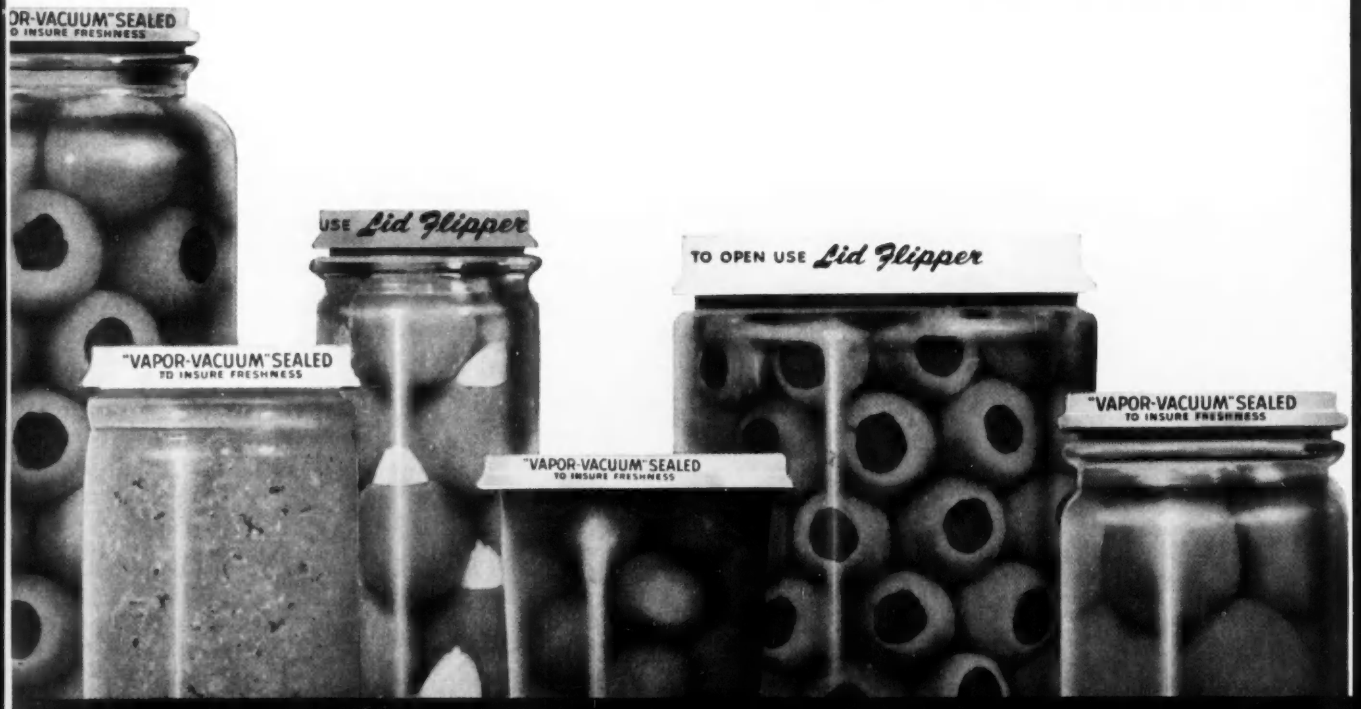
Instead of viewing the situation with alarm, the growers saw that they could achieve their long anticipated desire – to own their own processing and marketing facilities. At the same time they also found that they could acquire apple and cherry juice processing plants at Scotland and Orrtanna. When final purchase agreements were drawn up and settled, the growers found themselves in possession of four plants within a radius of 30 miles.

In the six years since, Knouse Foods' members have greatly expanded the four plants comprising the operation.

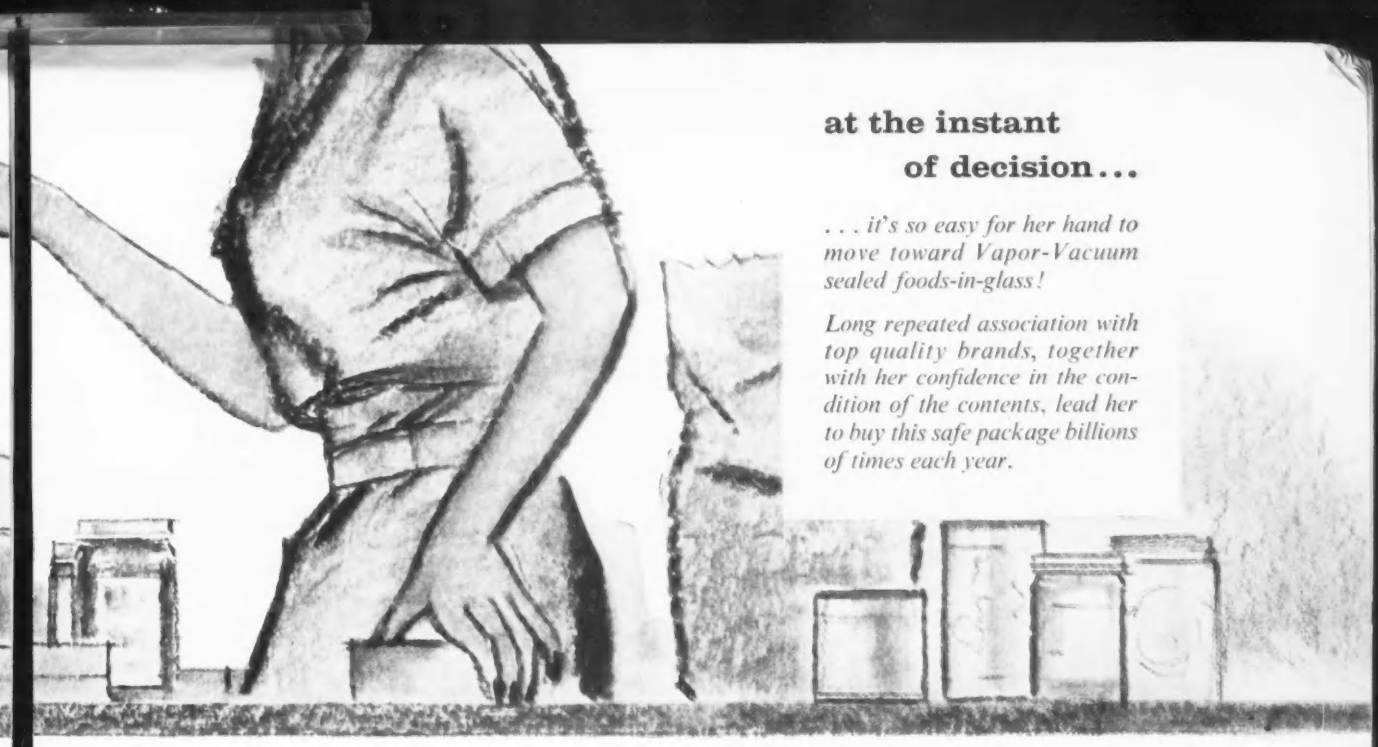


Transactions

At supermarket check-out counters, the flow of Vapor-Vacuum sealed foods-in-glass now is so great that it provides one Vapor-Vacuum package for every second shopper moving through the check-out lanes



PRODUCT OF **WHITE CAP COMPANY** CHICAGO 39



at the instant of decision...

. . . it's so easy for her hand to move toward Vapor-Vacuum sealed foods-in-glass!

Long repeated association with top quality brands, together with her confidence in the condition of the contents, lead her to buy this safe package billions of times each year.

by the BILLIONS!

If you set up the total number of food store checkouts against the units of Vapor-Vacuum sealed foods sold, an amazing fact appears:

The volume of Vapor-Vacuum sealed packages of food has now mounted to a point at which there are enough units of Vapor-Vacuum sealed food sold to equal a good half of the total number of shoppers in all the food stores.

In the light of this startling statistic, two basic merchandising facts become more evident than ever!

1. *From the packers' standpoint*—the Vapor-Vacuum sealed package is far and away the leader—for quality protection, low cost, and saleability.

2. *From the shoppers' standpoint*—the Vapor-Vacuum sealed package is the one that is accepted and bought most readily.

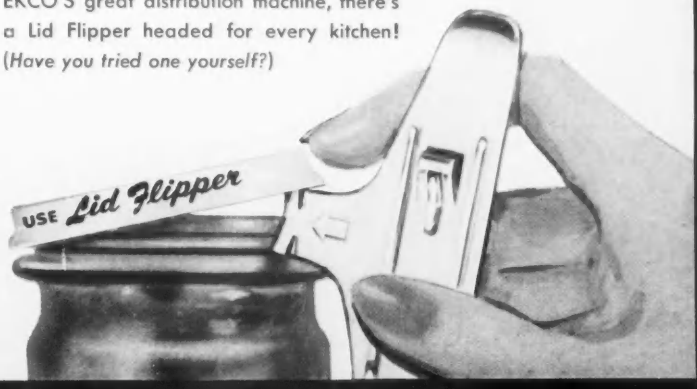
For example, olives

A timely illustration of the consumer acceptance of Vapor-Vacuum sealed foods is the olive situation. In the last few years, olives have been shifting rapidly to the Vapor-Vacuum sealing method. In five years, the volume of olives under Vapor-Vacuum has more than doubled, until it leads all other types of olive packaging by far.

Note, then, that during the shift to Vapor-Vacuum, the total national sales volume of olives has been showing its best increases in many years.

Here, as on so many products, the Vapor-Vacuum sealed package continues to be the one that serves both packer and consumer best.

For convenience, there's nothing like the pry-off cap and a LID FLIPPER! And, thanks to EKCO'S great distribution machine, there's a Lid Flipper headed for every kitchen! (*Have you tried one yourself?*)



"VAPOR-VACUUM"
Seal and Re-Seal

6-56

Canning Industry Has Place for

Agricultural Research

Gerber Products Company Program Can Be Used as Pattern for Valuable Undertaking

By Ray B. Wakefield
Research Director
Gerber Products Company

Agricultural research is a broad term with many facets. First of all, it can be generally broken down into basic research and applied or practical research.

The type of agricultural research carried on by government laboratories, state experiment stations, and certainly by privately endowed institutions, usually falls into the category of basic research. Several large canners and freezers have large agricultural research groups which carry on a substantial amount of basic research. This involves such work as breeding studies, seed selection, etc., and includes the operation of experimental farms directly under the control of the research group.

Applied agricultural research limits itself to the application of research methods and to the practical solutions of problems to fit the individual organization's requirements. Such work begins with the knowledge provided by basic research coming out of state experiment stations, and by employing the proper technique, developing it into a practical result applied directly to a particular plant's operation.

It is safe to assume that the majority of canners are interested in the application of applied research, so this article shall be confined to that particular phase.

Organizational-wise, applied research can be handled in different ways. It can be set up as a separate department; as part of a general overall research division; or it can be made a part of the field or produce department.

Basic Requirements

There are two basic requirements to consider, regardless of how the program is organized: — (1) the individual or individuals doing the work must have adequate technical training in agriculture, plus proper training on the job, and (2) they must be given adequate time, without the interference of other duties, to properly perform their tasks. This requirement is the strongest argument there is for setting up a division separately from the field department. It is well to keep in mind that while fieldmen are busiest performing their duties of procurement, research men, at the same time, must carry on their work.

At Gerber applied agricultural research is conducted. It is set up as one of the departments of the research department. The company now has a total of six men working full time at Oakland, Calif., Fremont, Mich., and Rochester, N. Y. This wide geographical distribution of sites makes it impossible to centralize this activity because agricultural problems are quite different in each locality. However, these men do maintain close liaison and are continually informed of one another's activities. Close coordination is necessary. This is assured by having an agricultural research advisory committee composed of Gerber's vice president of produce as chairman and all plant produce managers.

Twenty major projects are now being conducted. Projects with a wide scope have purposely been instituted. Phases covered may range from a state fruit survey for a given variety of peaches; to irrigation studies; variety or fertility tests; effects of pruning or thinning a given type of fruit; to proper post harvest handling of a crop; to actual pilot plant or production packs for quality evaluation.

Grower Joe Gamble and Gerber horticulturist Keith Haisley collect temperature records on tentative experimental peach site in Michigan.

Experimental carrot varieties being compared with Red Cored Chantenay in Santa Clara Valley in California. Test fields of this type are just one of the many facets in an agricultural research program that can be conducted by canners and freezers.

Cooperative Program

The success of these undertakings demands the joint efforts of the different departments within the company. For example, one experiment on green beans this past season found agriculture research combining forces with the produce, quality control, production and sales departments.

Cooperative projects also are under way with various research groups outside the company. A cooperative test on spinach in 1953 was conducted in cooperation with the National Canners Association, Michigan State University's entomology department, several growers and four commercial insecticide companies. Each group had materials, know-how, or facilities to incorporate into the test, thus assuring a practical solution to the problem.

In 1953 irrigation experiments on peaches showed a one-ton-per-acre increase in yield. In the grower's language this meant an increase of $35 per acre, after irrigation costs were deducted. An apple study which is still underway already has greatly benefited the company's applesauce quality and reduced overall costs of this pack. The handling of green beans from the field to the plant production line in 40-bu. crates is the

(*Continued on Page 38*)

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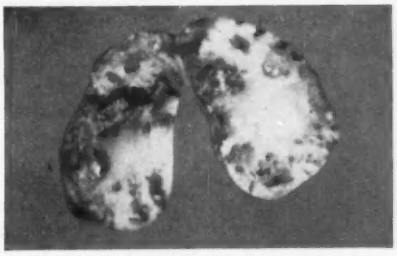

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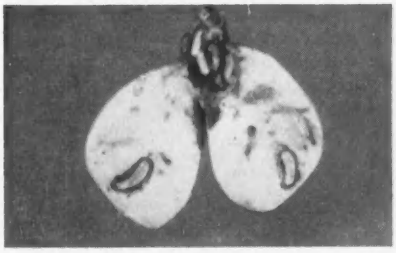

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Sauerkraut Fermentation

By Carl S. Pederson
Cornell University

The study of sauerkraut making through the years indicates a pronounced influence of temperature upon quality. It seems desirable to point out this relationship to the packers so that they may more carefully record and control temperatures. This in turn would result in improved quality of product and eliminate many present-day losses and unnecessary heating costs.

Since cabbage is a temperate climate crop, most of the sauerkraut is made in the temperate zones of the world. In this country during the cutting season temperatures vary from below freezing to above 90° F. Since kraut fermentation is a biological process, the activity of the various microorganisms associated with cabbage and sauerkraut are greatly influenced by temperature. Furthermore, since cabbage itself is a living plant, the chemical and enzymic changes which may occur within the tissues even after shredding are affected by temperature.

Better control of the process could be exercised if all the changes occurring were understood. Until that is possible one must depend entirely upon observation, experience and comparable past records to control the manufacture of this food product.

On a number of occasions in the past, temperature conditions detrimental to the quality of sauerkraut have been observed. In general, these have been effects of excessive rather than insufficient heat. Packers have often experienced periods when they were unable to can kraut because it was not completely fermented. This situation has made them more aware of the possible need for heat than of the less obvious effects of excessive heat.

So there is a great tendency among packers now to heat their buildings during the fall while filling and afterwards to assure a good supply of well-fermented kraut. This is in contrast to practices a number of years ago when many plants were never heated.

Sauerkraut is preserved in tanks by the carbon dioxide, acids, alcohol and other products formed in normal fermentation. Kraut need not be fermented rapidly. In fact, slow fermentation has been shown on numerous occasions to produce higher quality sauerkraut. This is particularly true if the kraut must be held for a period of time after completion of fermentation. This point will be shown in relation to ascorbic acid and color later.

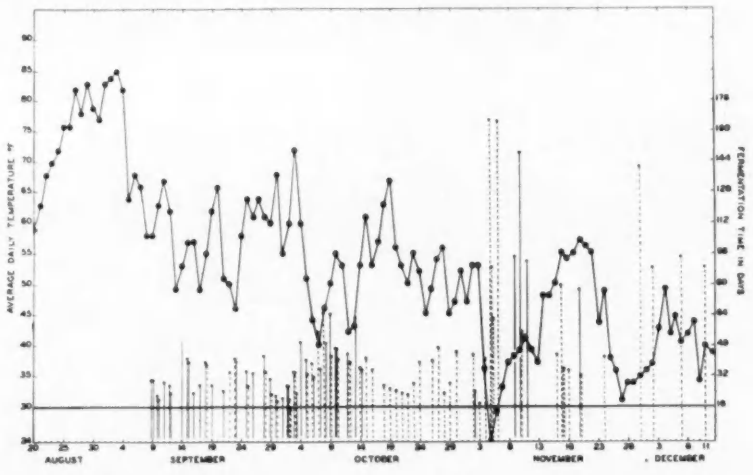

Fig. I – Effect of outdoor temperature upon speed of fermentation of 1953 kraut packed in tanks of two factories in Geneva, N. Y., vicinity. Vertical lines represent estimated time in days required for tanks of kraut packed on designated dates to attain acidity of 1.80%. Solid vertical lines represent tanks of kraut in one factory; broken vertical lines symbolize those of second factory

Fermentation Time

How fast will kraut ferment? In some of the early studies of the problem, it was observed that kraut sometimes attained a brine acidity of 1.60% in as short a period as nine days, and that in a typical factory held at 70° F. many of the tanks of kraut attained brine acidities of 1.60% in less than a month. Other tanks of kraut, however, required several months to attain that acidity.

In 1953, in two local factories, an intensive study was made of the effect of temperature upon rate of fermentation of kraut. Both factories were heated during the cutting season to about 70° F. The time of filling each vat was recorded. Samples of brine were removed at weekly intervals for acid and salt determinations until 1.80% acidity was attained. Temperatures were obtained in a number of tanks by means of thermocouples to record temperature rise.

From weather records at the Experiment Station, the daily average outdoor temperatures were estimated and are recorded in Fig. 1. Vertical lines of Fig. 1 represent the estimated time required for a tank of kraut to ferment to 1.80% acid. From this figure, we see that vats of kraut had fermented to 1.80% acid in a minimum of 15 days (the October 2 pack) and a maximum of 165 days (the November 5 pack).

A comparison of fermentation times with daily average temperatures shows a general inverse relationship. However, such a relationship is more nearly related to air temperature of the day preceding filling, since the cabbage is generally brought to the factory a day or two before cutting.

If we plot fermentation times against average daily temperatures of the days preceding filling we obtain the relationship shown in Fig. 2. This is only a general relationship because final cabbage temperatures are also affected by other conditions, such as heat of the building, variation in cabbage temperature attributable to time of day of cutting, rate of cutting, and possibly other factors.

However, a general relationship exists. Knowing the average daily temperatures, we may predict the relative rates of fermentation of the several vats in a factory.

Test Factors

Two points were emphasized by the acid testing in 1954: (1) that temperature determines the rate of fermentation, and (2) that fermentation will occur rapidly in unheated

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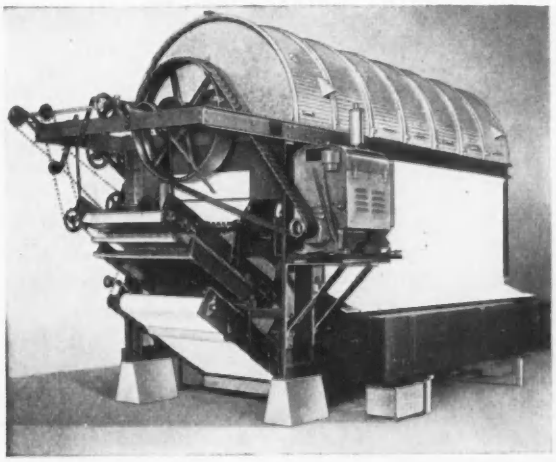

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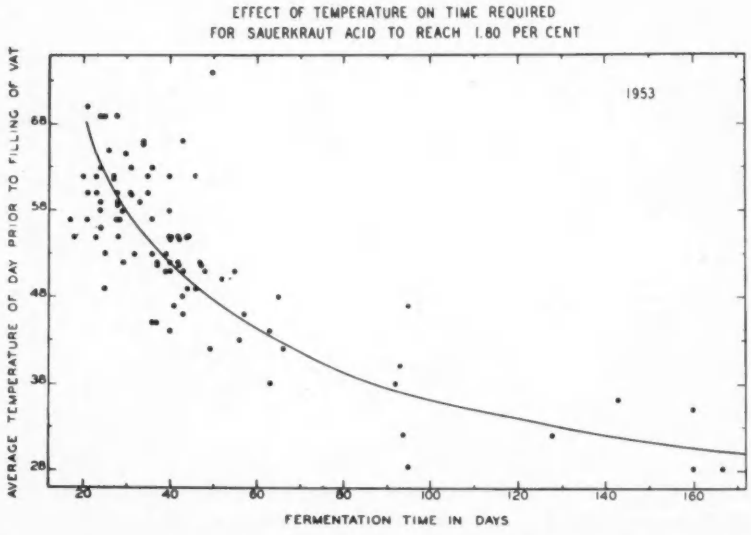

Fig. 2 — Graph depicting general relationship of average daily temperatures, before filling of vats, to rate of fermentation.

buildings if tanks are filled in normal fall weather.

Therefore, if accurate records of temperature and extent of fermentation of vats are charted and then used to determine processing order, one may have a continuous supply of well-fermented kraut for canning throughout the season without resorting to heating.

To illustrate this point, the results of series of vat tests in four factories are presented in Table 1. All tanks filled during the cold weather of October 6 through October 9 had not attained the acidity of tanks filled in warmer periods preceding or following these days, regardless of whether the factories were heated (Factories 1, 2 and 3) or unheated (Factory 4).

Tanks filled during the warm weather between September 29 and October 5 fermented more rapidly than those packed in the colder weather preceding September 29.

In Factory 2, 40 vats were filled between September 16 and October 19, seven of them before September 24. On November 15, 28 of these vats had attained an acidity of at least 1.90%. Among those that had not attained that acidity, one was filled following the cold period of October 7-9. Among the last six, four were less than one month old when tested.

It is felt that many of these fermentations were too fast, partly because the buildings were unnecessarily heated. (This point will be discussed later.) In Factory 1, in which filling was begun on September 24, the advantage obtained in Factory 2 was lost by not utilizing the warm weather of the preceding eight days. Since packing was done in colder weather, some heating may have been necessary.

The necessity for heating in Factory 3 is more apparent where fermentations were not benefited by warm weather. However, in Factory 4, unheated during filling, 12 of the 18 vats were well-fermented on February 5, and seven of these had attained more than 2% acid. Three packed in the cold weather of early November were fermenting slowly, but the other three were more advanced and would certainly be ready for canning when needed.

In this factory, the tank filled on October 7, which had attained only 1.72% acid on February 5, was being canned when tests were made. Accurate charting of records would have shown that this tank should have been among the last to be opened.

Excellent agreement between times of fermentation and temperatures has been obtained among the four separate factories, one of which was unheated. Among tanks filled in warm weather in the unheated factory, the rates of fermentation were apparently equal to those in the heated factories. This, however, is not true for tanks filled in colder weather.

Bacterial Growth

Although sauerkraut need not be completely fermented in order to keep well for extended periods of time, some fermentation is desirable. The acids, carbon dioxide, alcohol and other growth products resulting from a normal lactic acid fermentation inhibit the growth of undesirable bacteria always present on the outer leaves of cabbage.

Such bacteria are responsible for the digestion of cabbage leaves and roots in the field after harvest. They have a wide temperature range for growth and will grow at lower temperatures than the lactic acid bacteria, even *Leuconostoc mesenteroides* which initiate normal fermentations. Thus when outdoor temperatures are extremely low, it may be desirable to increase slightly the temperature of cabbage during filling of the vats in order to encourage at least the first phase of normal fermentation.

Cabbage can be heated most readily after it is cut and before it is packed in the vat. After packing in the vat, temperature changes are slow, particularly toward the center of the vat. In many factories, the trimming and cutting room as well as the tank room will be kept warm for the workers' comfort during cutting season. Thus, if cabbage is cold some rise in temperature of the shredded cabbage will occur. However, this heating may be insufficient to bring about an active initial fermentation when the cabbage is extremely cold.

On a number of occasions, temperature influences detrimental to the pack have been observed. On three occasions poor quality sauerkraut was observed where raw cabbage was too cold. This apparently prevented the rapid initiation of fermentation. In all three instances, the outside leaves of the cabbage had been frozen.

This does not necessarily imply that such cabbage cannot be used, but rather that if it is used it should be warmed before packing in a vat. It is not known whether freezing actually disrupts cells, causing the release of oxidative enzymes detrimental to color and ascorbic acid. It is assumed, however, that the acid and carbon dioxide produced in fermentation protect the ascorbic acid from oxidation under normal conditions.

Separate Packs

On numerous occasions, dark areas have been observed in tanks which were partially filled one day and completed later, particularly when the temperature of the raw cabbage differed on the two days. One of the most severe cases involved a tank partially filled on a Friday when the cabbage was very cold and completely filled on the following Monday after a marked rise in temperature of cabbage had occurred. The kraut at the top fermented rapidly and yielded a good quality pack.

A definite demarcation line of dark kraut occurred at the intersection of the two separate days' packs. Several barrels of the kraut were so poor in

(*Continued on Page 37*)

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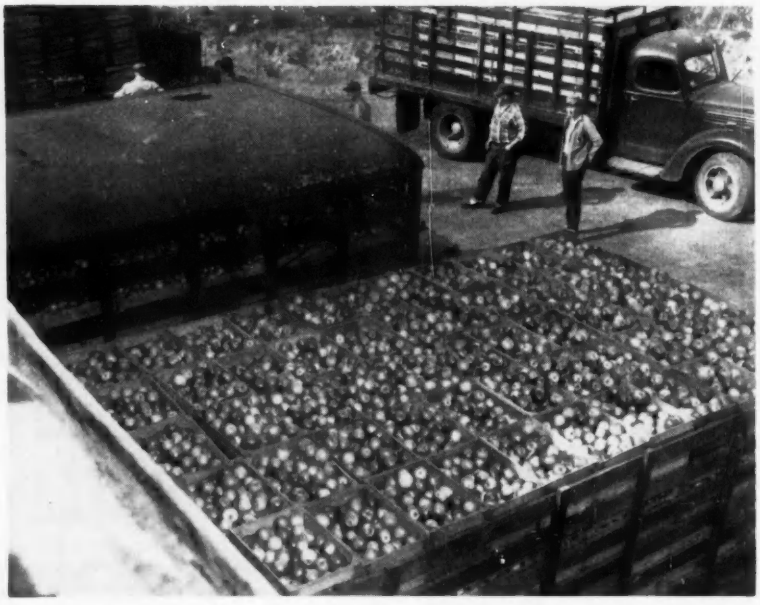

If product quality is to be preserved, good practice is essential in devising new handling and storage procedures.

Effect of Handling on Product Quality

By D. H. Dewey

Michigan State University

It is encouraging to note that many developments in crop handling are aimed at the preservation of quality of the product as well as toward savings in labor and other costs. Principles of good handling and storage are not new. Much experience has been gained by shippers of fresh fruits and vegetables on the handling and storage of specific commodities. Present processing methods are modern, even to the extent that products are almost automatically turned from the fresh state into the finished package. Pre-processing methods, unfortunately, are not so modern. Bulk handling is a step in the right direction, provided the essentials of good handling and storage practice are considered in devising new handling procedures.

High Temperatures

Most fruits and vegetables are damaged by high temperatures. Losses in sugar, wilting and rapid development of decay are a few of the changes caused by high temperature which in turn produces inferior quality in the processed product. The time factor is important in determining damage caused by heat. For many processing crops, and especially such vegetables as asparagus, spinach and sweet corn, the first 24 hr. after harvesting are critical. This is the period of most rapid deterioration and in which the quality of the finished product can be seriously affected. Consequently, handling methods that shorten the period of time between harvesting and processing are beneficial. Rapid handling, even when bulk methods are employed, is not always possible or feasible. Therefore, bulk handling methods must facilitate or provide a means of cooling, or at least prevent, heating. This is simple when water is utilized because the water may be naturally or artificially cooled. It comes in direct contact with the product and large volumes can be passed over it to dispense field heat. The values of water in this respect are well known in hydrocooling and in the bulk transport of cherries in water.

The problem is more complex with dry handling. Placing products in cold rooms will not necessarily accomplish quick cooling. The amount of surface exposed and air temperatures and velocities will determine the rate of heat removal. Good ventilation and some means of forced-air circulation is desirable. Furthermore, without adequate ventilation, heating may take place because of the heat generating capacity of the commodities themselves. Handling in bulk containers may seem that the crops are placed in a cold room more quickly than when handled in conventional containers, but this is no assurance of quicker cooling. Easily, the situation could be reversed because of inadequate provision for good air circulation through bulk containers. Much knowledge and experience must be gained along these lines.

Physical Damage

Mechanical damage to crops in the harvest operation or during handling from the field to the processing plant results in direct and indirect losses. The direct losses are obvious to most people, since skin breaks, cuts and abrasions must be removed from the crop when it is prepared for canning or freezing. These defects result in reduced yields in processing.

The indirect losses may be considerable, but less obvious. It is known that apples with bruises and skin breaks have higher than normal rates of respiration, which means that sugar losses and other types of degradation are more rapid. Furthermore, with a higher respiratory activity the dangers of heating are greater and the cooling problems are multiplied. Skin breaks are ready points of infection by decay organisms. The crops may fall a considerable distance when dumped, the handling speeds may be increased, and pressure bruises because of excessive weight in the container, are examples. Contrarily, bulk containers eliminate certain types of abuse, especially those attendant to hand loading, stacking and dumping.

Canco Launches Ad Campaign

American Can Company has launched a new consumer advertising program in *Life* and the *Saturday Evening Post*. The company's long-range program to promote canned items will be highlighted in this year's campaign by emphasis on the quality of the container itself.

Another special ad program supplementing the consumer campaign has begun in *Fortune*, *Business Week*, *Newsweek* and *U. S. News and World Report*. This series spotlights recent container developments originated by Canco.

"One of the most conspicuous elements of the new program will be the use of the Canco 'oval' that appears on cans made by the company," explained F. G. Jewett, the company's advertising manager. "The 'oval' will link the story of Canco service and progress to the quality of its containers for the packaging of hundreds of products in daily use."

The new consumer ads will be featured in trade publication advertising during the year.

color that they had to be discarded. This discoloration became more marked after the kraut was removed from the vat and brought in contact with air. The reverse temperature situation was observed on another occasion, but the kraut did not discolor and was good in quality. The top portion, however, fermented very slowly.

Color differences among krauts from different vats in a single factory have been observed on several occasions. These could be attributed definitely to differences in filling temperatures.

Texture Defects

have also been observed. In one instance a tank was installed adjacent to a steam line. The kraut which lay nearest to that side of the tank was so soft it had to

Texture defects attributable to temperature conditions be discarded.

These observations emphasize the influence of temperature upon rate and extent of fermentation, quality, color and texture of sauerkraut. They further indicate that much unnecessary heating of kraut storage rooms is practiced in the belief that it is necessary to bring about fermentation.

A good program of testing for acid at weekly intervals and charting of results is recommended. Such records may look like the accompanying chart.

Tank No.	Average Temperature	Date Filled	Acidity Development									
			October			November				December		
			17	24	31	7	14	21	28	4	11	
3		Oct. 10	.90	1.20	1.25	1.50	1.75	1.85	2.00	2.10	2.15	
7		Oct. 16	–	.70	1.00	1.20	1.30	1.45	1.60	1.75	1.90	
15		Oct. 24	–	–	1.20	1.45	1.90	2.10	2.12	2.12	2.15	

Using such records as a guide, the order of processing will be determined by rate of acidity development. Tanks that fermented most rapidly should be the first ones canned regardless of date of filling. Thus Tank No. 15 will be canned first, because it fermented at a greater rate than No. 3 or No. 7. It will readily lose ascorbic acid, may soften in texture and will darken if stored in the tank.

Tank No. 3 is intermediate, and the kraut will retain its character better than that in No. 15, but not as well as that in Tank No. 7. Tank No. 7 was the slowest fermenting. It will, therefore, retain its quality, ascorbic acid and color during storage in the tank for a longer period of time than the faster fermenting krauts in No. 15 and No. 3.

Need for heating can be determined by past experience as to availability of kraut for canning. Such experience will be greatly augmented in the future if well-kept record charts of acid development can be used.

During normal fall weather, heating may be entirely unnecessary for the majority of tanks of kraut. This will be most likely if the packer takes advantage of the warm days of August and September to obtain an active fermentation in a number of tanks. If cabbage is packed in very cold weather, however, heat may be needed to initiate fermentation.

In fact, if cabbage is near the freezing point, it is advisable to warm it more directly rather than indirectly by heating the factory. Possibly use should be made of a special warm air heater to apply heat directly to the cabbage.

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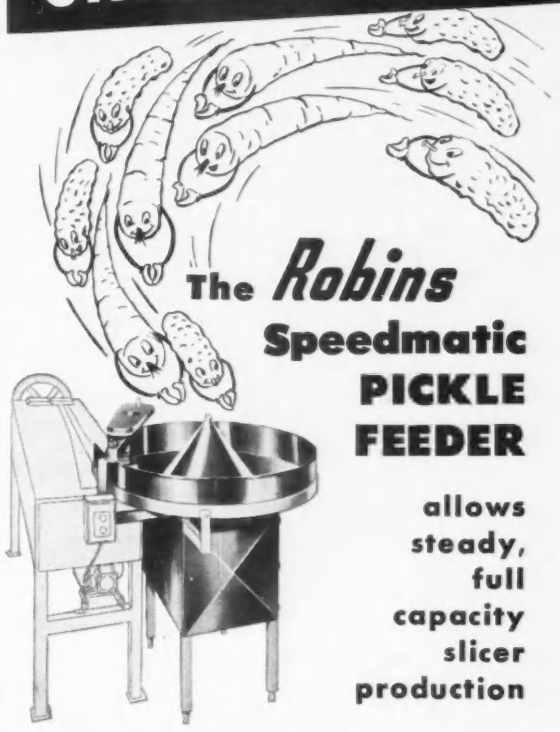

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WILBUR A. GOULD, PH.D.

Ohio State University

Quality Control Editor

Decontaminating Tomatoes

Removal of Drosophila Menace Is Object of Suggestions Based on Pilot Plant and Commercial Production Line Studies

How to remove *Drosophila* eggs and larvae from raw tomatoes is probably one of the most serious problems confronting the canner today. The canner has come face to face with the problem by way of the Food & Drug Administration's interpretation that a certain number of *Drosophila* eggs or larvae in a can is an indication that the product "may have become contaminated."

After studying a report from Monsanto Chemical Co. on the use of different detergents in washing strawberries, workers at the Ohio Agricultural Experiment Station started investigating the use of detergents and other techniques for washing tomatoes. The initial approach was from the standpoint of detergents alone; however, since the establishment of a federal contract project other factors have been studied.

The approach to control and removal of the *Drosophila* fly or its eggs and larvae may be divided into three phases:

1. Field control. (Recommended NCA and other specific procedures should be followed.)
2. Harvesting and handling.
   (A) Avoid rough handling.
   (B) Prevent contamination from the field to the receiving platform by (1) not allowing the tomatoes to come in contact with dirty lugs or hampers, or (2) preventing long holding periods from harvest to holding period from harvest to processing. (The use of scheduled deliveries may be the secret to successful handling; however, scheduled deliveries are only one step—the grower must cooperate and not allow the tomatoes to set from harvest to delivery, and the processor must set up processing schedules and practices in his receiving yard to prevent any possible contamination.)
3. Control or practices within the plant to help control or remove the eggs and larvae.

In this preliminary report covering the third phase noted above suggestions are offered for *Drosophila* egg and larvae removal.

The first thing that is necessary is some means of soaking the tomatoes, preferably in water separate from the final soak tank. There may be many tomatoes coming into the plant with heavy contamination (mud, dirt, etc.) which can be removed by a thorough soaking. In the soaking operation, three factors must be considered: time, temperature and agitation.

The length of time the tomatoes should be soaked for adequate decontamination is important. Studies of soaking times from 30 seconds to 10 minutes have been made. The data obtained show that about 3 minutes is usually adequate.

However, one lot of tomatoes may be entirely different from another. Some tomatoes have a high fly egg contamination which can be easily removed, while others may be "callused over" or dried out and quite difficult to clean. Nevertheless, a 3-minute soak appears to be satisfactory.

Plants with a flume system can use this as part of the soak time if it is integrated with the other soaking operation, that is, elevated temperature and sufficient agitation.

The next factor is temperature. The original work was done in a range of 60° F. to 150° F. by increasing the temperature through the use of live steam in the soak tank in 10-degree increments. A faster reaction rate of contaminant removal is obtained as the temperature is elevated. However, there is a limit before considerable "slipping" of the peel takes place. From these studies, temperature of the soak water of 130° F. was found to be most ideal.

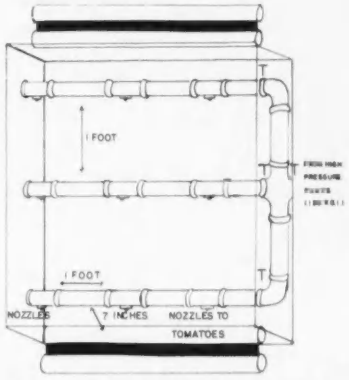


Fig. 1. Sketch of experimental tomato washing setup showing manifold arrangement and nozzle location over conveyor.

Agitation can be accomplished in one of two ways: by using a steam line that can also be used as a means of heating the soak water, or by air under pressure. In the laboratory or pilot plant tests, live steam produced effective results. The tomatoes should be vigorously rolling in this soak tank for most effective larvae removal.

The soaking studies to remove eggs and larvae from heavily contaminated tomatoes consisted of two phases, one strictly in the laboratory using 100 lb. lots. The other phase was on a production line basis in cooperation with a large tomato processor using 80 hampers per lot. Several lots were processed, using different variations as described above and other innovations that appeared good from the laboratory viewpoint for the different types of tomatoes and contaminants.

It is of major importance to follow the soaking period with an adequate wash. Three variables are most important in this operation: (1) rotation of the tomato; (2) type and number of spray nozzles; and (3) water pressure at the nozzle. (*Turn to Page 34*)

Exotic Chinese Specialties or corn from Iowa...

Both depend on sales appeal to take them off the shelf and into the home. That's why it's important to protect the appetizing colors on the label. Feel this finish. It's Tuff-Coat, the toughest, most beautiful finish of them all. Ideal for all packages where scuff, water or heat resistance is desirable. Worth investigating!

YOU ARE INVITED to make your own comparison

WRITE MURISON LABEL CO., INC., FOR LABEL SAMPLES. Plants in:
San Jose, Calif.
Meriden, Conn.
Peoria, Ill.

MUIRSON *Tuff-Coat* LABELS

protect their sales appeal

To accomplish a thorough washing, the tomato should be turning while under the spray. If a LaPorte mat belt is used on which the tomatoes are piled more than one deep, only the surface exposed to the spray nozzles is being washed regardless of the placing of the sprays, whether above the belt or below it, or both. By using a roller conveyor with the tomatoes turning, an adequate wash can be obtained if the tomato makes two complete revolutions under the sprays (see Fig. 1).

In the pilot plant, two revolutions can be accomplished in approximately 2 feet. However, on a production line this area may be lengthened or shortened, depending on roller size, conveyor speed and other factors.

A number of different types, sizes and makes of nozzles have been tested. To date, one of the best appears to be a full-jet nozzle which produces a square spray. In the pilot plant operation, a No. 18 nozzle was used. It has a 3/8 in. pipe connection and a 5/32 in. orifice opening. It delivers approximately 6-1/2 gals. of water per nozzle per minute at 130 lbs. pressure. Nine of these nozzles were used on the commercial line and four in the pilot plant studies.

A manifold arrangement with a high pressure pump was used in both tests. There was 1 ft. between nozzles and 1 ft. between lines (see Fig. 1). It appears that optimum coverage and spray impact are obtained when nozzles are placed approximately 7 in. above the roller conveyor.

The pressure-volume combination is a very important factor. High pressures with little volume, or large volume with little pressure will not accomplish a thorough washing. A water or pump engineer can furnish further detailed information on this subject. In the pilot plant, approximately 130 p.s.i. gives adequate pressure and, with this type of nozzle, a good particle size to accomplish the desired washing action. Obviously, sufficient volume must be accessible to the pump.

One final phase of the problem has been a study from the standpoint of adding detergents to the soak tank when needed. Detergents are not needed all the time as *Drosophila* eggs can be removed from some tomatoes by the proper combination of soaking time and temperature, types of nozzles, volume and pressures of washing. A detergent should be used at elevated temperatures (130° F.) with a soak time of 3 minutes while the tomatoes are vigorously agitated.

The final spray should be placed behind the soak tank where water does not drain into the tank, causing rapid dilution. However, if detergents are used, the tank should be changed regularly to avoid contamination.

The detergent giving best results of those tested to date is a non-ionic ethyloxilated higher alcohol. Studies are presently under way to formulate a detergent which should give better results from the standpoint of egg and larvae removal for the various types of water encountered, and one that does not foam excessively.

By using the egg counting technique as a measure of efficiency, general results were as follows:

The count was reduced approximately 28% when comparing cold water sprays (flat deflection sprays) with city pressure (approximately 50-60 p.s.i.) versus cold water and high pressure sprays, new nozzles (130 p.s.i.).

Hot water regular sprays give approximately 43% reduction in egg count, compared to cold water.

Hot water plus high pressure sprays give approximately 60% reduction over cold water regular sprays.

Hot water plus high pressure sprays plus detergent in the soak tank, using recommended soaking procedure, give approximately 73% reduction over cold water soak and regular sprays.

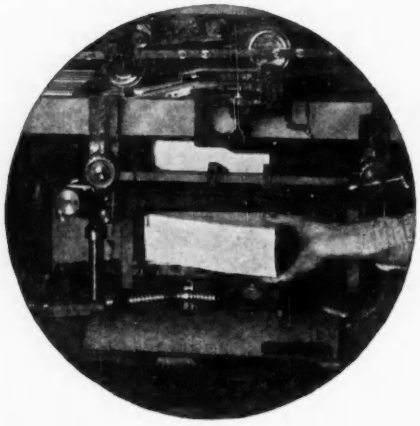
BURT

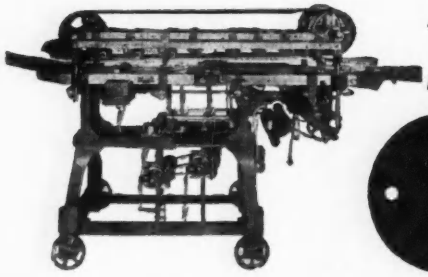
Dual Label Feed means NON-STOP

No stops for replenishing supply

Quick Change over

No disarrangement of the label pack





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Using Salt Efficiently

by **INTERNATIONAL SALT COMPANY, INC.**—America's largest producer of salt

How to Sample Rock Salt for Screen or Chemical Analysis

Sampling bulk rock salt accurately is often a difficult problem. For when salt is stored in piles, coarser particles collect at the foot of the pile—while finer particles remain inside and at the top. A few handfuls of salt taken at random from the outside and bottom of such a pile almost always mean an inaccurate sample for analysis. Also, during transportation and handling, salt particles of different sizes tend to become segregated.

However, by following a few simple steps, you can easily obtain salt particles of a truly representative size range. This sample will then give accurate results in any type of screen or chemical analysis. Here are the modern sampling techniques approved for most plants where salt is used:

Stockpile sampling of bulk salt. Samples from either indoor or outdoor stockpiles should be taken at three separate points: at the top of the pile, at the base, and at one intermediate point. The sample taken at the intermediate point must come from deep within the pile. To prevent segregation of salt particles during this sampling procedure, a board should be pushed into the salt pile just above the point from which the sample is taken.

Sampling bulk salt in railroad cars or trucks. In sampling a boxcar load of salt, three trenches should first be made in the salt across the width of the car. The bottom of each trench should be at least 1 ft. below the surface of the salt, and approximately 1 ft. wide. Equal portions of salt can then be taken from nine equally spaced points along the bottom of each trench. Two of the nine points should be directly against the sides of the boxcar. Sampling in these trenches is best accomplished by pushing a shovel or sampling tube directly into the salt, and not by scraping horizontally.

The same general procedure may be used effectively to sample truckloads of rock salt.

Sampling between transport and storage. Rather than sample bulk salt in cars or in storage, many companies feel that more accurate samples can be taken during unloading—at some point in the handling process where a flowing stream of salt is accessible on all sides. The points at which salt leaves a head pulley or drops from a chute lip are two of the most desirable places for this type of sampling.

This "running sample" gives consistently excellent results, but it must meet the following conditions as closely as possible:

1. To obtain salt particles of all sizes, the sampling scoop must move at uniform rate across the entire *width* of the stream. Samples will generally be inaccurate if the scoop moves through the stream from front to rear.

2. The sampling interval should be uniform. And it is better to take small samples frequently than a few large samples.

3. The sampling scoop should have a relatively long rectangular opening, permitting a knife-like cut across the stream. The use of pails or shovels to sample the stream may produce an inaccurate sample.

4. Sampling should take place on a regular stream flow. When taken from an intermittent flow, samples may not be representative. Also, sampling should be carried on throughout the entire unloading period.

Moisture content. Samples should not be taken from bulk rock salt which has recently been exposed to rainfall or excessive humidity. Under these conditions, the proportion of insolubles will increase due to the leaching out of a certain amount of salt. Resulting analysis will then show a higher degree of impurities and a lower sodium chloride content than is normally present.

Finally, it must be remembered that no matter where the salt is sampled—the larger the sample taken, the more representative it will be for final analysis. In fact, many industries require a gross sample of at least 100 lb. from one carload of salt. This samp e is then reduced to about 5 lb. for laboratory work.

TECHNICAL SERVICE WITH YOUR SALT

Through skilled and experienced "Salt Specialists," International can help you get greater efficiency and economy from the salt you use. International produces both Sterling Evaporated and Sterling Rock Salt in all grades for industry. And we also make automatic dissolvers in metal or plastic for both types of salt. So we have no reason to recommend one type of salt over another; we simply recommend the type and size of salt most perfectly suited to your needs.

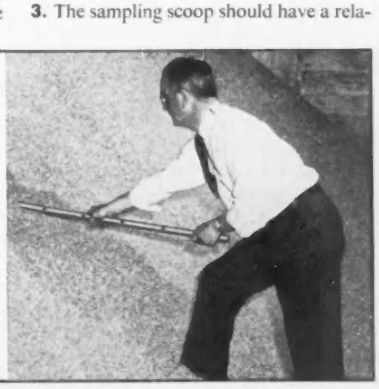
If you'd like the assistance of an International "Salt Specialist" on any problem concerning salt or brine—or further information on salt sampling and analysis—just contact your nearest International sales office.

International Salt Co., Scranton, Pa.

Sales Offices: Atlanta, Ga.; Chicago, Ill.; New Orleans, La.; Baltimore, Md.; Boston, Mass.; Detroit, Mich.; St. Louis, Mo.; Newark, N.J.; Buffalo, N.Y.; New York, N.Y.; Cincinnati, O.; Cleveland, O.; Philadelphia, Pa.; Pittsburgh, Pa.; and Richmond, Va.

Sampling Tube Is the Simplest Method

Most sizes of rock salt can be sampled from stockpile, bins, trucks, or railroad cars by means of a simple sampling tube approximately 1¼" in diameter and about 6 ft. long. Five to eight insertions of this tube into the salt will furnish a sample of about 10 lb. Some of the best tubes for sampling rock salt are those sold for testing grain. They have about 12 openings and a special auger point.



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Freezing News

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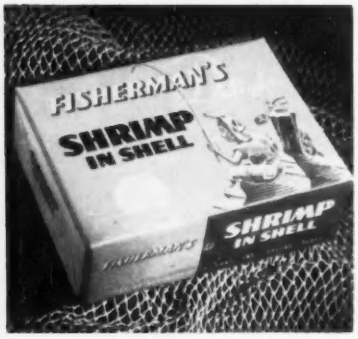

Shrimp in Shell

A 9 oz. package of Fisherman's Delight frozen shrimp in shell has been introduced by Rubenstein & Sons, Incorporated, Dallas.

The new package will be distributed in all markets where shrimp is used for bait. However, the seafood firm points out that the shrimp are fresh frozen and edible and can be served in cocktails, salads, creole, etc. They will be packed fresh in Carmen, Campeche, Mex., and custom packed at various Gulf Coast plants.

Rubenstein also packages and distributes institutional and consumer breaded, ready-to-fry, peeled and deveined shrimp under the Gulf Princess label.

No Freeze on Expansion

"If you're looking for space, look to the public refrigerated warehouses," Gilbert J. Stecker, new president of the National Association of Refrigerated Warehouses, reminded frozen food industry leaders recently. "There's plenty of space available for the present and plenty for the reported continued boom in frozen foods," Mr. Stecker said in a special statement.

The NARW leader pointed to the etismated current total of 480,000,000 cu. ft. of public refrigerated storage space in operation, an increase of 67,000,000 cu. ft. in less than 10 years.

"Department of Agriculture figures indicate approximately 57% occupancy of cooler space and 66% occupancy of freezer space at present," Mr. Stecker continued. "A further breakdown reveals occupied freezer space to be as low as 35% in some regions and occupied cooler space as low as 29%.

"In short, the public refrigerated warehouses are better able than ever before to meet and accommodate expansion in the frozen food industry," Mr. Stecker observed. "Judging from figures available from USDA and from NARW compilations, there is no shortage of public refrigerated warehouse space," he emphasized, "but, instead, a very definite surplus exists at this time.

"There's no restraint on the expansion of the frozen food industry as far as the public refrigerated warehouses are concerned," Mr. Stecker reiterated. "If the problem is overflow, look to NARW member warehouses for the solution *and* the space," he concluded.

Insulated Cart

Foods and beverages requiring refrigeration can be moved to traffic areas and hot spots in stores without spoilage, according to the manufacturer of a new cart display.

The display, made by Fuller Displays, 5-39 48th Ave., Long Island City, N. Y., fits all standard size shopping carts and can also be used on check-out counters. The bin is made of specially treated water fibreboard and insulated for maximum temperature control. Sides can be utilized for advertising purposes, brand name identification and point-of-purchase reminder.

Sliced Corned Beef

Silver Skillet, Skokie, Ill., is introducing a 1/2 lb. package of sliced cooked corned beef in an aluminum foil pouch.

All the housewife need do is unwrap the foil covered box, pull out the foil pouch and pop it into boiling water. Within 15 minutes she has hot corned beef.

The new package, with six color, full-tone rotogravure overwrap, will be introduced in Chicago.

New Overwraps

Sparkling cellophane overwraps have replaced a waxed pail for Gerage Catering Company's Delicious brown gravy and sliced roasted beef and barbecue sauce and sliced roasted beef.

According to the packer, the new overwraps facilitate high speed automatic production. A reproduction of the packaged product, ready-to-serve, is displayed on the white background packages.

Frozen Crab

Seattle fish broker and canner Ivar Wendt is packaging cooked and frozen crab in polyethylene film under the "Pacific Pearl" label.

The crab – of the Pacific Dungeness variety – is cooked in fresh water shortly after it is caught, placed in a brine solution and frozen. It is then placed in a polyethylene film bag, which is heat-sealed.

According to the packer, the film protects the crab from dehydration and mechanical damage during distribution. It also allows the packages to be displayed with other foods without danger of flavor transmission from the crab packages to surrounding packages.

It is the personnel that counts

Our New York sales office has moved to the eighteenth floor of 415 Madison Avenue, and you are cordially invited to visit us.

This move, as well as the opening of many new Hazel-Atlas sales offices, and modernization of old ones, is part of our continuing program for better service.

The physical aspects of these offices, however, are secondary.

It is the personnel that counts

Each representative in a Hazel-Atlas sales office is a factory trained glass packaging expert. He is there to help you on your problems from the production line to the consumer. He is given these new surroundings that he may be of greater help to you than ever.

HAZEL-ATLAS GLASS COMPANY

WHEELING, WEST VIRGINIA

The Market Place

News of Promotion & Selling

Sardines in Cluster-Pak

The Trident Packing Company, Lubec, Me., has announced what it calls the first change in the merchandising of sardines in 75 years. The company reports that its "Nepco" Maine sardines in a 6-can cluster-pak now have "grab-appeal" off the supermarket shelf.

According to the packer, the cluster-pak billboard carton makes it possible for the first time to create visual brand recognition on the sardine can. The pack also enables the sardines to be easily and functionally stacked, thus earning valuable floor display space.

Courtesy Owens-Illinois Glass Co.

La Choy in Display Unit

Display cartons with strong merchandising copy are being used by La Choy Food Products, Archbold, Ohio, in introducing its improved La Choy brown gravy sauce, bead molasses type.

The product, now packaged in a tall, streamlined jar with built-in stacker feature, is being distributed in 1 doz. and 2 doz. jar units. The reshipping carton is marked so it can be cut to form a self-contained complete selling unit.

"Buffet" Pack

An economy pack of 12 "buffet-size" cans of vegetables in six varieties recently introduced by Gibbs & Company, Baltimore, is meeting wide consumer acceptance, according to the company.

The package contains two 8 oz. cans each of green beans, julienne beets, sweet peas, diced carrots, whole white potatoes and New England style pork and beans. It weighs 8-1/2 lbs., measures 11 x 8 x 3-1/2 in. and can be stacked both on shelves and on the floor. The carton, with full-color vignettes of the six varieties, provides its own colorful floor display.

Courtesy American Can Co.

Spanish Olives in Cans

ReaLemon-Puritan Company, Chicago, has introduced Spanish olives in 3½ oz. cans.

In promoting the Manzanilla olive, ReaLemon-Puritan is calling it the "Canzanella" pack, to call the consumer's attention to the availability of the new canned product.

Warm Weather Campaign

Consolidated Foods Corporation, Chicago, through its distributing divisions, has opened a warm weather sales campaign to appeal to the growing number of Americans enjoying the fun of outdoor cooking.

Divisions are being offered colorful, 34 piece display kits, suitable for use throughout the summer months. For the consumer, a three-color heavy cotton barbecue apron is available for $1 plus proof of purchase. The aprons are imprinted with the line "Too Many Cooks Spoil the Broth."

Agricultural Research

(*Continued from Page 24*)

result of another test conducted earlier.

One of the major responsibilities of agricultural research personnel is to keep a close liaison with all federal and state institutions working in the field.

Adjusting Program

Many canners are not in a position to carry on a program of large magnitude, but they can gain many advantages by applying research principles on a limited scale, providing their program is intelligently planned.

The question may be asked by some canners, "Do we have the facilities within our organization to carry out an agricultural research program?" This calls for an affirmative answer. They have the advantage of being on the scene where the problem exists.

In providing manpower within the field department the management should provide the department with at least one technically trained agriculturist and allow him sufficient time to carry out required assignments. This, of course, is predicated on the assumption that management first decides exactly what it expects in research and then formulates a policy to be followed.

Every fieldman has a definite responsibility in the program which can be classified into three major obligations in such a program: – (1) he must be ready to answer questions and make recommendations to growers on various phases of growing, harvesting and crop handling; (2) he must fortify himself with sufficient formal as well as self-education. (This should be a continuing process); (3) he should be observant, making mental as well as pencilled notes of anything seen or done which may someday serve as a valuable reference in his work.

Summary

Thus, in summary, agricultural research has a proper place in the program of every canner and freezer. The program can take many directions and can be large or small, once the processor has decided that it is necessary to his future progress. A program should be set up on a definite pattern with the cloth cut to fit the pocketbook and manpower.

Properly planned and properly evaluated agricultural research can't help but pay dividends to each and every canner who can be interested in such a program.

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For Fast, Precision Weighing
. . . Save Time and Product.

Here's a sturdy, trouble-free scale for every general weighing or checkweighing use. Adjustable hydraulic damping action and short lever movement quickly bringing indicator to rest—giving you a fast, accurate reading at a glance. Model shown is 11 pound rated capacity with indicator travel of 1¾ inches equal to 1¾ pounds over or under. First one ounce on dial is graduated in ¼ ounces with first ⅛ ounce graduation in red. (Other dial graduations optional). Equipped with 9″ x 9″ stainless steel platter and 1″ flange—with or without scoop. This scale is designed to save your time and your product.

EXACT WEIGHT manufactures scales for every weighing operation in the Canning and Packing Industry. Consult us on your weighing problems.

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CANNERY SANITATION

How to guard against "Swells" and "Flat-Sours"

Bacteria, of course, are the primary cause of "Swells" and "Flat-Sours". Your equipment can be the breeding place for these bacteria. Therefore, proper disinfecting of all equipment is the key to uniformly high quality food products.

For many years, leading canners have depended on Diversol CX as the basic product in their sanitation program. This unique Diversey formula (1) cleans, (2) disinfects and (3) de-odorizes, in a single application. The unusual penetrating action of Diversol CX cuts through film to kill bacteria that otherwise might cause "Swells" and "Flat-Sours".

Protects costly equipment

And, Diversol CX is non-corrosive and will not harm equipment.

Diversol CX is recommended for safe, thorough cleaning and disinfecting of tanks, pipes, mixers, fillers, presses, benches, tables and all other equipment that may come in contact with food. It effectively destroys mold contamination and, milder solutions, make a safe employees' hand rinse. Diversol CX crystals are color-coded pink for easy identification.

Specialized sanitation counsel

For expert help on your sanitation problems use the services of your Diversey D-Man. Without cost or obligation he will be glad to give you a demonstration of safe, economical Diversol CX, and to recommend a complete sanitation plan for your plant. Or write The Diversey Corporation, 1820 Roscoe Street, Chicago 13, Illinois.

Insure Uniform Quality Cooking

DOUBLE-CHECK with COOK-CHEX

When a Cook-Chex is attached to a retort basket . . . *Anyone* in your plant can double check, at a glance, *two important* facts!

1. **The basket has, or has not, been through the cooking process.**
2. **It has, or has not, been subjected to proper cooking conditions.**

These two facts are important to you because they eliminate the usual problems of: a wrong cook schedule, keeping baskets in sequence, and the possibility of "losing" uncooked baskets!

Easy-to-use Cook-Chex signal these essential facts automatically! Cook-Chex, produced with a *purple* chemical ink, turn color to *green* only after your proper cooking conditions have been achieved. Cook-Chex react to precise conditions of temperature, steam and time; and, may be ordered to meet your specific cooking requirements.

Cook-Chex are also excellent as a low cost, permanent record for your cooking-room operations.

Double-check with Cook-Chex to insure uniform quality in your food products. Send for supply of Cook-Chex samples.

ATI COOK·CHEX

Another product by ASEPTIC-THERMO INDICATOR COMPANY

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Please send a FREE supply of Cook-Chex for use with a cooking process of _____ degrees F., for _____ minutes. FP-6

Name_____

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Company_____

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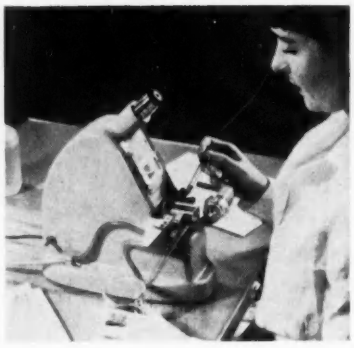
City_____ Zone____ State_____

What's New?

(*Continued from page 19*)



Refractometer

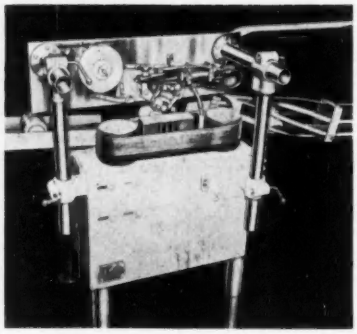
Simple, fast operating procedures have been built into a new Abbe-3L Refractometer introduced by the Bausch & Lomb Optical Co., 635 St. Paul St., Rochester, N. Y.

In one minute the operator can reportedly load, light and look into the instrument to obtain the refractive index of liquids, dissolved solids, and some opaque solids. It can be particularly useful as a quality control tool in the food and chemical industries.

Loading the refractometer has been simplified by mounting the prism assembly in front of the operator within easy reach, and in a horizontal position to reduce spillage.

The sample is lighted quickly with a built-on illuminator which swings into position. Lamps can be easily changed and are the readily-available flashlight type.

Readings are taken with a single eyepiece, from a convenient relaxed sitting position. Numbers are easy to read because of an internal illumination system. Refractive index range is 1.30 to 1.71; solids scale reads 0% to 85%.



Outsert Applicator

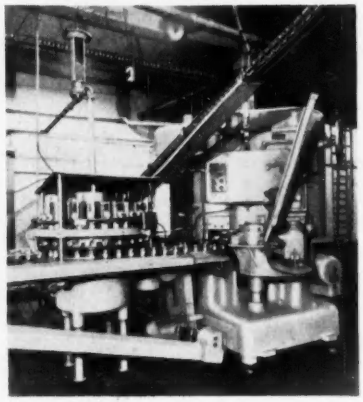
A new way to attach a consumer message to the outside of the product container is available in the Outsert Applicator* by the Pfaudler Company, Rochester, N. Y.

Latest recipes, product applications, coupons, contest rules, physician's literature—all can be outserted on the package where it is in plain sight and sure to be taken home by the buyer.

The Model OA-3MC accurately attaches outserts at rates up to 220 containers a minute. Any cylindrical container of glass, metal, plastic, or paper, with dimensions ranging from 2⅝ in. to 7¼ in. in length and 1¼ in. to 6½ in. in outside diameter, can be easily handled by the machine. The unit is compact, requiring only four sq. ft. of floor space.

Those seeking further information about application of outserts for their products should forward a sample of a labeled container with the outsert affixed at the desired location on the package. Send to the Pfaudler Company, 1012 West Avenue, Rochester, N. Y.

* *Patent application pending*



Closing Unit

American Can Company has designed two new closing machines, one with a record capacity of up to 1,000 cans a minute.

The 1,000-can-a-minute machine, the 210-8R, is a self-contained can-revolve closing machine for double-seaming round cans and is equipped with eight seaming units in a revolving cage. Net weight of the unit is 9,100 lbs. and the overall floor space required is 49 by 57 in. It will close cans ranging from 202 to 211 in diameter and 200 to 508 in height.

The other closing machine, the 410-6R2, can close up to 600 round cans per min. It has six seaming units mounted in a revolving cage and can be used for steam and gas flow closing procedures. It will close cans ranging from 202 to 404 in diameter and 108 to 708 in height.

Specifications and performance data are available from American Can Company, 100 Park Ave., New York City.

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Count 5 average words per line. Rate 65 cents per line. Minimum charge $2.50. Cash with order, no discount allowed.
When answering "blind" advertisements address box and number shown care of

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FOR SALE: Niagara #510-28 type 316 Stainless Steel Filter, 510 sq. ft.; Fitzpatrick Comminuting Machines, Models D, F & K; (1) Hope type 18 semi-automatic stainless steel single piston filler; (50) Stainless Steel Tanks from 30 gal. to 10,500 gal. cap. (Some with mixers). (25) Aluminum Storage Tanks up to 3200 gal. cap. (30) Stainless Steel and Stainless Clad Steam Jacketed Kettles from 40 gal. to 500 gal. (Some with agitators). Lot of Welded Steel Tanks with Lastiglas and mammut lining (from closed breweries)—4300 gal. to 23,000 gal. sizes. 30 Wood Tanks—4500 gal. to 14,000 gal. sizes.
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FOR SALE: 3 Model F CRCO Stringbean Snippers; 3 Model #5 CRCO Stringbean Graders; 3 Urschel Model 30 Stringbean Cutters; 1 Nubben Grader; 1 Sprague-Sells Figure 460 Hand Pack Filler.
All of above equipment in very good condition and ready to go to work. Will sell all above items as one unit $10,000 FOB Plant.
NORTHWESTERN CANNING & PACKING CO., Seffner, Fla.

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Man-Of-The-Month

Marvin P. Verhulst

Secretary

Wisconsin Canners

Association

An old tradition claims that those born to professions are champions and the best. Actors born to the theatre invariably prove to be stars; athletes' offspring generally follow the footsteps of their forebears; and so it has often proved true in the canning field. Such is the case of Marvin P. Verhulst, secretary of the Wisconsin Canners Association since June 1, 1937.

At 48 years of age he has, by his accomplishments, stamped himself one of the outstanding canning organization secretaries in the nation. Born in Oostburg, Wis., he moved, with his parents, at an early age, to Sheboygan, a few miles distant. Here he acquired his early schooling.

When Marvin was 14 years old, his father, Henry A. Verhulst, entered the canning business and from that time, for seven consecutive summers, young Marvin worked in his dad's cannery during summer vacations.

Honor Student

His early training in the industry did not seem to serve as an attraction of importance, nor did it create an inner urge to follow the canning profession. Instead he went to Wooster College, Wooster, Ohio. Here he proved himself an apt student by being elected to Phi Beta Kappa, national honorary scholastic society, and to Phi Sigma Rho, honorary debating fraternity. After graduating from Wooster he returned to his native state and entered law school at the University of Wisconsin. In 1932 he was awarded his LL.B. degree. As a law student he was elected to Order of the Coif, honorary legal fraternity, in which membership is symbolic of leadership.

Upon completing his law studies he joined a leading law firm in Madison with which he remained until 1936 when he took a leave of absence to serve as senior examiner in the Unemployment Compensation Department of the Wisconsin Industrial Commission. This was the stepping stone that eventually led him back to the canning industry. In the capacity of senior examiner he addressed the Wisconsin Canners convention in the Fall of 1936 to explain the state's unemployment compensation law. Members of the Association were so impressed with his knowledge of their problems and with his family background that the following spring, upon the resignation of H. R. Burr, he was offered the position of executive secretary. He accepted and has been there ever since.

Service of Value

According to an officer of the Wisconsin group, "during Marvin's service with the Association, the state's canning industry has more than doubled its annual production and the Association has come to represent more than 98% of the state's pack of canned vegetables and fruits."

During World War II the Wisconsin Association secretary served as a consultant to the Fruit & Vegetable Branch of the War Food Administration in connection with the canned vegetable subsidy program. It also was during this period that he proved of inestimable value to the Wisconsin canners. His intimate knowledge of federal orders and regulations helped tremendously. One member recalls, "he always knew the right answer. If, on rare instances, he didn't have the immediate answer he was always able to get it forthwith." Men in the industry will remember that this was the period of understaffed plants. Marv, as he is known by thousands, personally came to the aid of individual canners during these trying times by doing their actual pricing under government formulas then in effect.

One thing not generally not known was the great job turned in by Marv and Walter Ebbling when they established pricing formulas on raw materials during the war. This accomplishment was considered so "well done" that several states adopted the same practice. Canners the country over can well remember hearing the wish expressed many times by other canning groups, "if only we had Marvin Verhulst for our secretary."

His ability to keep his membership out of trouble has been evidenced on many occasions. This ability, of course, stems in part from his legal training. However, his ability to employ his legal training in proper channels has prevented several Wisconsin canners from running afoul of the law. This coupled with his experience in the Wisconsin Compensation Department has helped numerous members get off to the right start sans legal entanglements in all facets of their business.

In addition to his knowledge of law and its value in the canning industry, his unusual organizational ability has frequently exhibited itself. His planning and conduct of schools and conferences within his Association has been a boone to the industry in general. Through the past several years they have grown to be standards of comparison for others to follow. His efforts in organizing and conducting the annual meeting of his Association has led, in great part, to its being nicknamed "The Little National."

Association Prestige

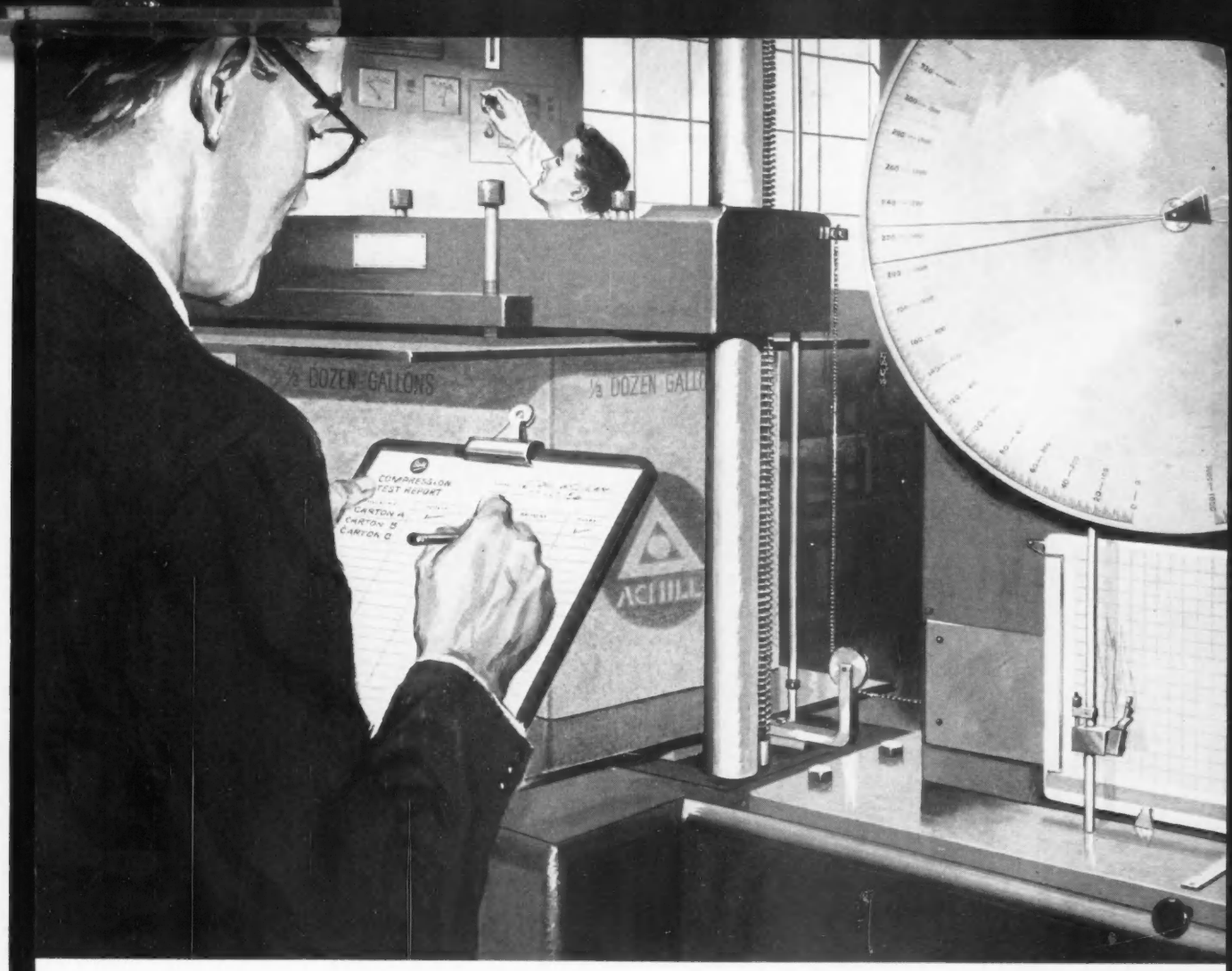
During his 20 years in office the Wisconsin Canners Association has attained peak success in the industry. It has also reached its highest membership level. His sincerity and integrity are unquestioned in his state. His followers are legion (witness the 98% figure of Wisconsin canners as members of the Association.)

Along with his organizational ability and his "public relations" personality, backed by a practical lawyer's view, his understanding of financial structure has brought the WCA to the soundest position it has ever experienced in its long history.

An Association officer recently remarked, "Seldom has an industry been fortunate enough to have the services of so competent a secretary. He has enhanced his stature not only with his own members, large and small, but with the industry as a whole."

For the past 10 years Mr. Verhulst has been a member of the Workman's Compensation Advisory Committee of Wisconsin Industrial Commission. He also has been a member of the American Trade Association Executives for over 10 years and has served in many offices of that organization.

Just in case he ever does relax in his job (the odds are 1,000 to 1 he never will) his family is in a position to keep a close eye on their favorite member for brother Gordon is current president of the Wisconsin Canners Association and his dad is still chairman of the board of the Calumet-Dutch Packing Company at Sheboygan.



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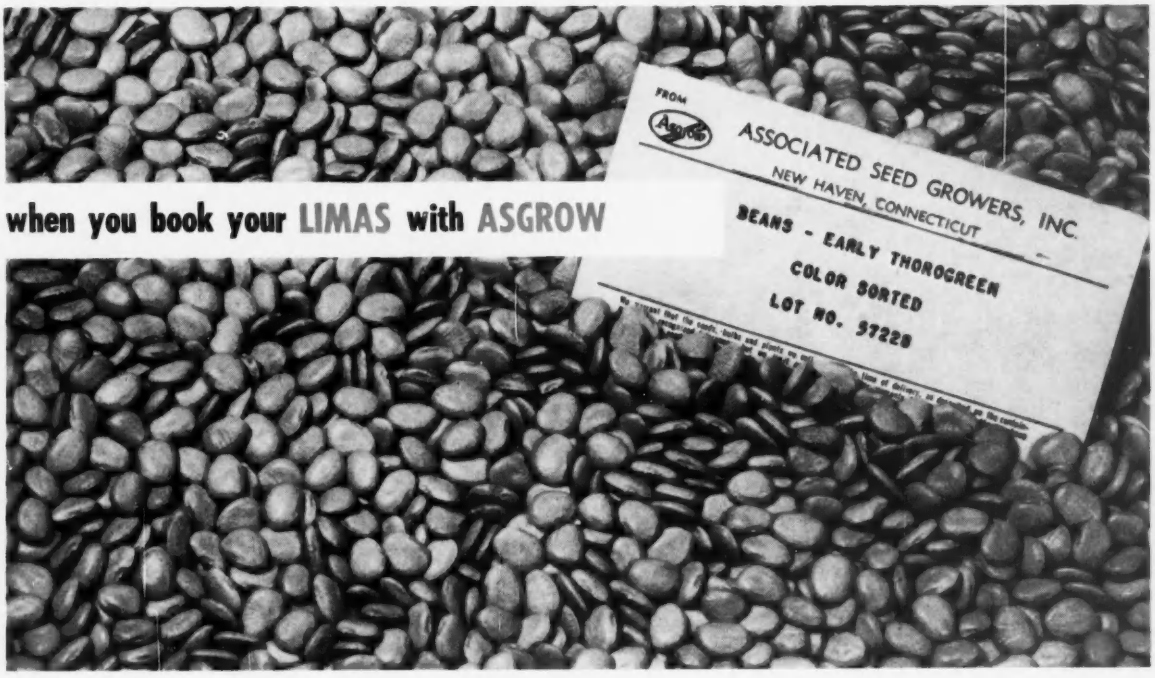

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